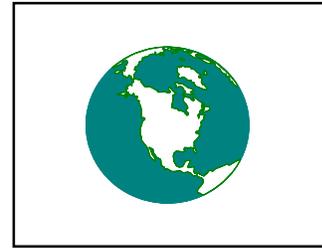


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CAR LINES

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Sales of Diesel Cars in the US

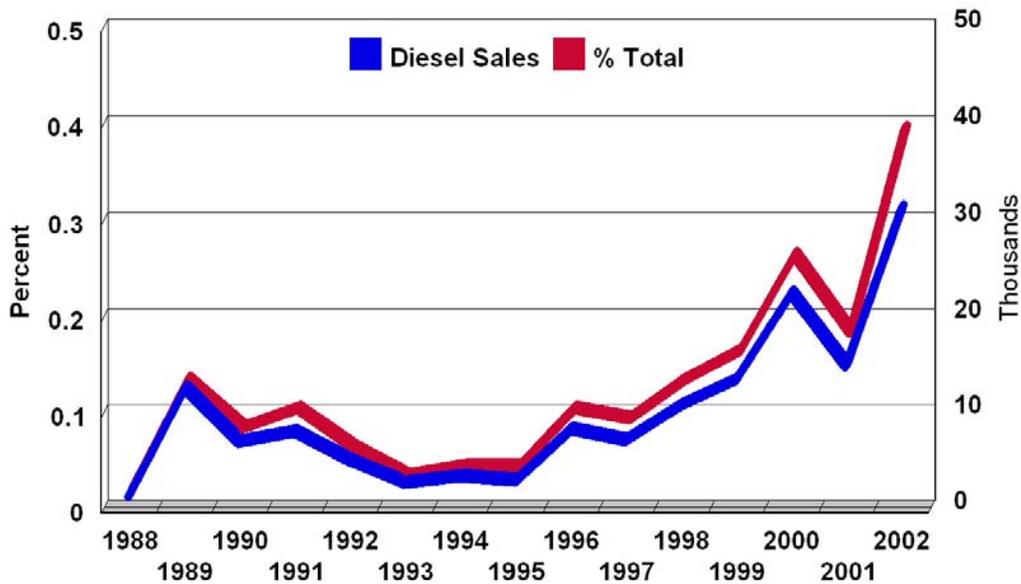


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EUROPE**1. UBA Issues Proposal On Diesel Standards**

European legislation on exhaust emissions has made major progress with the adoption of limit value standards up to and including Euro 4 for passenger cars and light-duty commercial vehicles and Euro V for heavy-duty engines. However, according to the German UBA, exhaust gas limit values need to be updated primarily for vehicles with diesel engines.

Article 3 of Directive 98/69/EC (passenger cars and light-duty vehicles), the joint position of the Council on Directive 99/96/EC (heavy-duty engines), and the conclusions of the Environment Council on 18 and 19 December 2000 on evaluation of the Auto Oil II program contained corresponding instructions to the Commission. In a note on the topic of the concept of the enhanced environmentally friendly vehicle (EEV) for light vehicles, dated 11 February 2003, the Commission stated that it would now attend to updating the exhaust gas limit values for passenger cars and light-duty vehicles.

The proportion of diesel passenger cars among new registrations in Germany has more than doubled in recent years and has now reached almost 40%. The trend for particulate emissions indicates that by 2020 the rapidly rising share of diesel passenger cars will lead to an increase in particulate emissions from passenger cars by a factor of 2.3 and therefore to an increase in particulate emissions from road transport by a factor of 1.6 compared with earlier assumptions. Roadside monitoring stations have shown no reduction in particulates which would correlate with

the previous lowering of limit values for exhaust gases. Therefore, UBA believes that action is required in this area.

The problem of fine particulate emissions is currently being discussed with regard to air quality. The World Health Organization, the EU Commission, the National Research Council, and the environmental agency in the United States are highlighting fine particulates as one of the current priorities for environmental hygiene in Europe and the United States. There are also indications of carcinogenic effects. To protect health, the technically feasible particulate reduction of well over 90% must be required for diesel engines. A total of approximately 800,000 people die in Germany each year from all causes. According to an expert's report by Prof. Wichmann of GSF Nuremberg, approximately 1 to 2% of those deaths can be classified as premature deaths due to exhaust from diesel vehicles. According to the report, reducing particulate emissions as a risk-prevention measure, for example by using particulate traps, would prevent most of those premature deaths. The use of particulate traps would lead to a mean increase in the life expectancy of everyone in Germany by 1 to 3 months compared with the current situation.

Modern diesel passenger cars emit eight to ten times more nitrogen oxides compared to cars that run on petrol, thereby contributing among other things to the formation of summer smog, which is harmful to health. The NOx limit value for diesel passenger cars in Euro 4 is about three times higher than the limit for petrol cars.

Electronic injection systems in heavy-duty vehicles, first introduced with the Euro II limit value allow different injection strategies to be used in the various ranges of the engines characteristic curves. More recent

studies according to UBA have shown that Euro II engines are often deliberately optimized outside of the range of characteristic curves run in the type approval testing cycle to improve the specific fuel consumption. This leads to a considerable increase in nitrogen oxide emissions. The consequence: in 2003, the mean NO_x emission factor for heavy-duty vehicles is about 40% higher than previously assumed, which corresponds to an **additional gap** in coverage of around 115,000 tons per year NO_x in 2010.

Directive 1999/96/EC relating to measures to be taken against emissions from heavy-duty engines specifies a Euro V standard with a NO_x limit value of 2.0 g/kWh, which will apply to the granting of operating licenses for new engine types starting in 2008. Within the framework of calculations for the planned measures to be taken by the German federal government to comply with National Emissions Ceilings (NEC) Directive 2001/81/EC, it has been shown that that limit value should be cut in half again to 1.0 g/kWh. It must be taken into account when the EU Commission examines the Euro V limit values, particularly since similar circumstances exist in other European countries. That adaptation must be followed by a further reduction in the NO_x limit value for heavy-duty engines to 0.5 g/kWh from 2010 onwards.

Particulate emissions from diesel engines in passenger cars and commercial vehicles have already been considerably reduced in the past few years by making changes to engines, i.e. improving combustion. Additional changes to engines that could reduce particulates by some 30 to 50%, depending on the current initial state, have the potential to just comply with the Euro 4/Euro IV limit values that will apply to type approval testing of diesel passenger cars and heavy-duty engines

from 2005. However, as things now stand, a greater reduction in particulates is possible only by using a particulate trap. The proven reduction rates are well over 90% for particulate mass and reach 99.999% for the number of particulates. This has been demonstrated for a series of different particulate trap systems.

The entry into force of the Euro 4 limit values starting in 2005 will result in the use of particulate trap technology only in certain diesel passenger cars. According to publications by German car manufacturers, small- and medium-sized diesel passenger cars with manual transmissions will be able to get by without particulate traps, while diesel passenger cars with automatic transmissions that are medium-sized or larger and all heavy diesel passenger cars will probably need particulate traps.

Almost all manufacturers of diesel passenger cars have particulate trap systems that are ready or almost ready for series production. The trap systems differ less with regard to the high rate of elimination, which can be achieved without difficulty, than with regard to their regeneration processes.

Particulate trap technology is also available for commercial vehicles.

It is currently doubtful whether the intention of the European Environment Ministers to implement particulate trap technology with the limit values for heavy-duty engines in Euro IV (and Euro V), which they declared when approving Directive 99/96/EC, will be fulfilled. Updating the particulate limit values beyond Euro 4 for passenger cars and Euro IV/V for heavy-duty engines is **technically feasible and necessary** to prevent risks to health. A further reduction of the mass-based particulate limit values by a factor of 10 is sufficient in principle to achieve the objective of protecting health, if effective

particulate traps or equivalent technologies with a high reduction rate over the entire size range of the particulate matter, including nanoparticles, are used. To avoid misplaced efforts in the form of technical developments aimed primarily at reducing mass, the particulate count must be controlled to support measures to limit particulate mass.

A Particle Measurement Program (PMP) experts group was created in 2001 at ECE-GRPE level to verify the suitability of mass-based particulate control for the future and to propose a method for controlling particulates which is more oriented to their effect. At the time of this report, Phase II of the project was mostly complete, and the results and concrete suggestions to be made by the group were taking shape. In addition to an improved gravimetric method (U.S. 2007), the CPC (condensation particle counter) offers a system with which the particle count (more precisely: the particle concentration in l/cm³) can be measured in the size range relevant to the effect of particulates, in line with the requirements of a type approval test.

The following proposals for updating the exhaust gas limit values for passenger

cars as Euro 5 from 2008 and for adaptation of Euro V for heavy-duty engines can be derived from the above remarks: The Euro 5 particulate limit value for passenger cars of 0.0025 g/km (for the time being only mass-based) should correspond to an emission reduction of 90% compared with the Euro 4 limit value. At 0.08 g/km, the NOx limit value for diesel passenger cars should correspond to the value for petrol cars in Euro 4. As an adaptation of Euro 5 to come into effect from 2008, a further reduction of particulate emissions from heavy-duty engines down to the particulate trap level is also necessary for the same reasons as for diesel passenger cars. Because the Euro IV/V particulate limit values of 0.02 g/kWh in the ESC and 0.03 g/kWh in the ETC can be fulfilled even without a particulate trap, the reduction rate of 90% which can reliably be achieved using a particulate trap should be applied to those values. That results in 0.002 g/kWh in the ESC and 0.003 g/kWh in the ETC. With regard to NOx emissions, the NOx limit value in the Euro 5 standard should be cut in half from 2.0 to 1.0 g/kWh, and a further reduction to 0.5 g/kWh should occur from 2010. The proposal is summarized in the Table below.

Passenger Cars (g/km)		PM		NOx
Current Euro 4 (2005)		0.025		0.25
Proposed Euro 5 (2008)		0.0025		0.08
Heavy Duty (g/kWh)	ESC Test	ETC Test		Both Tests
Current Euro 5 (2008)	0.02	0.03		2.0
Proposed Euro 5 (2008)	0.002	0.003		1.0
Proposed Euro 6 (2010)	0.002	0.003		0.5

In addition, the total number of particulates emitted by both passenger cars and heavy-duty engines limits should be limited in the size range that is relevant for health. The PMP group will propose annexes to Directives for precise definition of the improved gravimetric procedure and the CPC procedure by the end of 2003.

The additional costs for Euro 5 designs in diesel passenger cars and the appropriate combinations of measures to fulfill the aforementioned limit values are estimated to be €200 to €400 per vehicle compared with Euro 4 technology. In the case of heavy-duty engines, the additional costs for

emission control going beyond the approved Euro V standard and the necessary exhaust gas aftertreatment systems, which substantially represent a further optimization of the systems necessary for Euro V, will be negligible. The total additional costs compared with a Euro III engine will be between €1,500 and €3,000, depending on the size of the engine.

2. Ground-Level Ozone Hurting French Farming

The accumulation of tropospheric ozone resulting from human-induced air pollution during hot summer months is having a negative impact on agriculture in the greater Paris region, according to data released in mid-July by the National Agricultural Research Institute (INRA). The INRA study blames the buildup of ozone pollution in the lower atmosphere for a 5 percent to 10 percent decrease in cereal crop harvests over the past decade in the greater Paris region.

Ozone pollution--formed when nitrogen oxide gases and volatile organic compounds in power plant emissions and automobile exhaust mix with oxygen in hot weather--has long been blamed for a variety of health ailments, principally those of the respiratory system. The INRA study, however, marks one of the first times that scientists have blamed ozone for negative impacts on agriculture production.

INRA's principal thesis suggests a windblown migration of accumulated ozone concentrations seen over the past decade in the densely-populated greater Paris region to lesser-populated cereal-producing regions to the west and south of the French capital. Wheat crops, which have been shown to absorb between 10 percent and 30

percent of all low atmospheric ozone during photosynthesis, are suffering most from the pollution buildup, INRA said, with an overall 5 percent to 10 percent decline across the greater Paris region and higher declines in a major southwestern farming zone where most ozone produced in Paris ends up.

3. Thousand Die Prematurely in European Heat wave

Close to 20,000 mainly elderly people may have died in the stifling heat wave that gripped Europe this month, latest estimates show. In France, where pictures of unclaimed corpses piling up in refrigerator trucks have shocked the nation, the government has admitted failings and appointed experts to establish how many of an estimated 13,600 extra deaths in August were directly caused by the hottest weather in 60 years.

The Italian government is investigating reports that deaths leapt 20 percent in a summer where the mercury has been hitting a sweltering 40 degrees Celsius (104 Fahrenheit) since June.

A Spanish rights group alleges the scorching weather killed 2,000 in Spain, dwarfing a government estimate of 101, and Portugal says it claimed 1,300 lives in a summer that saw swathes of forestland destroyed by fires.

France has been harder hit than countries like Spain and Italy, where summers are normally hotter and many homes have electric fans or air conditioning.

Even the normally mild Netherlands and Britain are counting heat wave victims. The Dutch Health Ministry says between 500 and 1,000 died from the heat, and Britain says there were 907 more deaths in the week to August 15 than in an

average year. Germany, which has been less humid than its neighbors to the south and west, has no official estimate yet.

4. Council of Europe Wants Healthy Environment To Be A Human Right

Representatives from the 45 member nations of the Council of Europe urged their governments June 27 to seek a new pan-European agreement establishing citizens' entitlement to "a healthy, viable, and decent environment" as a human right. The council's Parliamentary Assembly declared that "in view of developments in international law on both the environment and human rights ... the time has come to consider including a right to the environment in the human rights protection system." Parliamentarians suggested that the agreement could take the form of a protocol to the European Convention on Human Rights, a council treaty dating from 1952.

Established under the terms of the convention, the European Court of Human Rights has since then developed a body of case law relating to environmental issues, even though the convention contains no specific references to the environment.

The council is an intergovernmental organization set up in the aftermath of World War II that includes the 15 member states of the European Union and other European countries. Its primary mission is the protection of human rights, but it also seeks to preserve the rule of law and find solutions to pan-European issues involving discrimination against minorities, environmental protection, organized crime, and other matters.

The council cannot make laws, although

it can draft international agreements such as treaties that must be then ratified by European governments.

The Assembly's recommendations are expected to be discussed at an autumn meeting of the Committee of Ministers, the body that represents national governments that are members of the council. If ministers support the recommendations, they will direct council officials to begin drafting a text. The Assembly would scrutinize the text prior to its adoption by ministers.

Speakers from France, Greece, Sweden, and Turkey said environmental rights feature in their domestic laws. But they agreed that international action is needed, given the cross-border nature of pollution.

5. EEB Criticizes Greek EU Presidency

A coalition representing 130 European environmental groups was critical in its assessment of the six-month Greek European Union presidency, citing the Environment Council's compromise on environmental liability and Ecofin's work on the environmental taxation of energy products among the presidency's failures.

According to the European Environment Bureau's (EEB) assessment of the environmental results of the Greek presidency, *Good Intentions--Mixed Results*, the most disappointing outcomes were the conclusion in the Ecofin Council--the group of EU finance ministers who coordinate economic policy--on environmental taxation on energy products, the outcome on the mid-term review of the Common Agriculture Policies, and the Environmental Council's compromise on environmental liability.

In its assessment, the EEB concluded that while the Commission and other governments in the Council were to blame for the lack of progress on certain issues such as environmental liability, taxation of energy products, chemical policy, and environmental taxation, the lack of real pressure by the Greek government, however, led to major delays on issues such as **air pollution from ships**.

The EEB praised the Greek presidency's work in the mobilization of environment ministers in favor of a strong environmental and sustainable development content in the future European Union Constitution. However, Greek Prime Minister Costas Simitis failed to ensure a new, short mandate for the EU Constitutional Convention to make proposals for the revision of outdated treaty policy chapters, such as those on agriculture, transport, and cohesion.

6. Italy Seeks Balance During EU Presidency

Italy will seek to use its six-month term as president of the European Union to create a more "business friendly" environmental climate, policy papers from the prime minister's office said. The policy papers were released June 30.

The "Environment as Opportunity" paper said Italy plans to integrate "environmental concerns within economic development" without ignoring either. The paper vowed to "end the ideology of prohibition promoted by the environmental bureaucracies ... [and support] positive actions ... based on voluntary agreements" between governments and companies.

The EU president--the position Italy will hold for the last six months of the year until Ireland takes over on Jan. 1, 2004--

cannot actively set policy. But the president can actively influence policy debates by setting agendas and timetables and allocating staff and other resources.

The voluntary approach Italy says it will advocate has been criticized both within and outside Italy. The Paris-based Organization for Economic Cooperation and Development has produced models in recent months that question the effectiveness of voluntary initiatives, and the European Environmental Bureau, a nongovernmental organization, issued a statement June 30 that criticized Italy's "determination to openly push for environmental deregulation".

Other environmental groups echo the view that business concerns will trump environmental concerns. For example, the World Wildlife Fund issued a statement July 1 claiming that Italy had allegedly violated some 170 environmental norms, more than any other EU member state.

But government officials defend Italy's environmental goals, pointing out that, in addition to seeking a fair balance between environmental concerns and economic growth, the Italian presidency would finalize EU directives on greenhouse gas emissions trading, waste disposal, and rules overseeing the transport of toxic chemicals.

Other key environmental issues on the agenda are discussions related to bathing water quality, emissions from non-road machinery, and rules on persistent organic pollutants.

The presidency's top priority will be the COP-9 meeting in Milan. The importance of that summit will depend in part on whether Russia ratifies the Kyoto Protocol on global warming--a milestone Italy is lobbying hard to reach in time for the Dec. 1 start to the talks.

7. EU Car Efficiency Information Rules Updated

New EU rules covering electronic display of new car fuel economy and carbon dioxide (CO₂) at showrooms took effect on 24 July. The directive amends a 1999 law obliging such information to be made available, but which only mentioned posters. Dealerships will now be able to use electronic displays in addition to or instead of posters. Updates will be required every three months, rather than every six months for paper-based displays. Member states must ensure electronic displays comply with the rules by 24 July next year.

8. German-EU Fight Over Motorway Tolls Settled

Germany has persuaded the European Commission to approve plans to introduce motorway tolls for trucks from November. The agreement was struck during talks in Brussels between German transport minister Manfred Stolpe and EU transport commissioner Loyola de Palacio.

German plans to compensate national freight firms for the new charges by reimbursing fuel tax had put the tolls under threat. The European Commission launched an investigation into the scheme complaining that only domestic haulers would be eligible to receive it.

At that time, Ms de Palacio insisted that the whole road charging scheme had to go on hold while the compensation issue was resolved.

The German government has now undertaken to treat charges and compensation as two distinct processes.

This will require a further cabinet accord which should not hold up the start of the tolls on 2 November.

Mr. Stolpe and Ms de Palacio agreed to set up a working group including industry representatives to deal with the question of compensation. The transport minister's successful visit was an important face-saving exercise as the tolls have already been delayed twice. First a lack of on-board vehicle tracking equipment stalled their introduction. Then fierce industry opposition added another two-month delay.

9. Taxes on U.K. Airlines Urged to Curb Emissions

The House of Commons Environmental Audit Committee said July 29 that airlines should be taxed to limit carbon dioxide emissions. The committee said emissions released into the atmosphere by the aviation industry were "unsustainable and unacceptable." Growth in U.K. aviation will "accentuate global warming and destroy the government's commitment to a 60 percent cut in carbon dioxide by 2050," the report, *Budget 2003 and Aviation*, charged.

The committee recommended replacing the U.K. current air passenger duty with "an emissions charge levied on flights and clearly displayed on travel documentation." It said the fuel-based emissions charge should be set initially at a level that would raise £1.5 billion (\$2.42 billion) per year "but be subject to an annual escalator so that revenue will increase over time." It said the U.K. Treasury should also "consider the case" for introducing a value-added tax on ticket sales for domestic flights within the United Kingdom.

The committee was highly critical of the U.K. Department for Transport,

questioning the assumptions on which its growth forecasts for aviation were based.

The report noted that, by comparison with road transport, aviation is receiving subsidies of more than £9 billion (\$14.53 billion) per year through the absence of a fuel tax and VAT on tickets, and that this "unfairly penalizes competing forms of transport" such as rail.

10. Bjørn Lomborg Back In The Firing Line

Denmark's controversial Institute for environmental assessment (IMV) and its founder, Bjørn Lomborg, have hit the national headlines again with the release of a critical review of the institute's first eight reports since its creation last year. The government had commissioned a panel of five Nordic academics to carry out an "external, independent evaluation" of the reports, which take a market-led approach to environmental issues, after a scientific committee accused Mr. Lomborg of "scientific dishonesty". The 16-page assessment concludes that "none of the reports represents scientific work or methods in the traditional scientific sense", and all are to some degree "defective".

However, the panel concedes that IMV never tried to pass off any of the reports as scientific, and even faintly praises them as being "well presented, topical and easily accessible to the public".

11. Norway Particle Emissions Estimate Revised Upwards

Norway's estimated fine particle emissions jumped 25% after national statistics office SSB said it had added new emission sources in its statistics, including industrial process emissions,

straw-burning, house fires, brake pads and tires, building sites and sand pits. Wood-burning stoves and fireplaces are still by far the biggest source, accounting for 60% of a total 64,400 tons in 2001. Emissions from this source have risen 6%, probably in response to high electricity prices. Despite this, national particulate emissions are still put at 8% lower in 2001 than in 1990.

12. Mercedes-Benz To Offer Diesel Particulate Filter

From October 2003, Mercedes-Benz will be the first car manufacturer in the world to offer the combination of EU 4 exhaust emission standard and diesel particulate filter for its high-selling diesel passenger cars. The combination of EU 4 and diesel particulate filter will initially be available for the C-Class and E-Class models with four-cylinder CDI engines. To date, 85 percent of C-Class and about half of all E-Class diesel customers have opted for the 200 and 220 CDI engines. At the beginning of next year, the six-cylinder CDI engines in the E-Class and S-Class will follow suit, offering both EU 4 and diesel particulate filters.

The particulate filter system developed by Mercedes-Benz operates without additives and, depending on the individual use profile and thus with no fixed change interval, remains efficient over a very high mileage.

In Germany Mercedes-Benz is offering the combination of EU 4 and diesel particulate filter for the four-cylinder CDI models for a price of EUR 580 (incl. VAT). When registering such a vehicle for the first time, Mercedes customers in Germany, the United Kingdom, Belgium, Sweden and the Netherlands will enjoy tax benefits which effectively reduce the additional cost by a significant amount, or even balance it out completely.

With the Mercedes-Benz particulate filter system, it is possible to achieve high mileages without the need for additional service measures. The filter is regenerated by adjusting, in accordance with requirements, various engine-control functions, such as fuel injection, intake-air throttle, exhaust-gas recirculation and boost-pressure control. In this way, it is possible to increase the temperature of the exhaust gas and the particles accumulated in the filter are burned off. Test results show that, after a high mileage, the residual ash is up to 75 percent less than that produced by additive-dependent filter systems. Sulphur-free fuels and specially developed engine oils will mean that these diesel particulate filters have an even longer service life.

13. Euro Parliament Rejects Austrian Truck Plan

On July 3, the European Parliament rejected a European Union plan to extend through 2005 a scheme that restricts road haulage on environmentally sensitive mountain passes in Austria. The scheme could lapse at year's end, allowing unrestricted traffic flows, unless the Parliament and EU transport ministers negotiate a compromise agreement, the next step in the legislative process.

Parliamentarians see traffic restrictions as the wrong solution. Instead, EU governments should press ahead with an EU-wide system of highway charging and "actively promote" introduction of "super-clean engines," according to a report from the Parliament's Transport Committee.

Currently, truck operations across Austria's Alpine regions operate through a system of "eco-points." Freight companies are allocated quotas of

points, but the number of transit journeys they are allowed to make is determined by the emissions performance of the vehicles used. Late model, low-emission trucks use up fewer points; older, more polluting vehicles require more points. Emission performance is judged according to nitrogen oxide emissions recorded during engine type approval procedures.

Although the "eco-points" scheme represents a departure from normal EU rules on free movement of goods in the EU single market, Austria clinched the right to retain the system under the terms of the nation's accession to the EU in 1995, pending adoption of an EU-wide highways infrastructure charging system.

Austrians complain that trucks hauling freight across their territory, between the industrial north of the EU and the Mediterranean, produce unacceptable levels of pollutants that remain trapped in deep Alpine valleys.

German, Dutch, and Italian critics of the scheme complain that Austria has been slow to develop alternative rail transit routes. Although options for EU infrastructure charging were outlined in a 2001 white paper published by the European Commission, the EU's executive arm, legislative proposals promised in the first semester of 2003 are still awaited.

In a stopgap proposal, the Commission suggested that Austria should be permitted to retain the "eco-points" system for 2004. In the Parliament's July 3 vote, members signaled that they might be prepared to approve a two-year extension of Austria's eco-points system if there is no sign of EU-wide infrastructure charging legislation entering into force by the end of 2004. But the scheme would be radically revised, according to an amendment

backed by a 346-102 vote, which amounts to a counterproposal to the Commission draft.

Quotas would remain for 2004, but the best performing low-emission trucks would be exempted, allowing them to make unlimited transit journeys. In 2005 and 2006, there would be a total ban on truck categories rated as the worst performers and unlimited access for the rest.

After 2006, transit restrictions would be abandoned under the Parliament's plan.

14. Exports of Old Refrigerators Banned by European Parliament

On June 5, the European Parliament agreed to ban exports from the European Union of old refrigerators and air conditioning equipment, a growing trade seen as a circumvention of EU rules on ozone-depleting substances. The executive European Commission says the consignments, supposedly intended for re-use, go to developing countries that lack facilities for safe recovery and disposal of banned chlorofluorocarbons (CFCs).

CFCs, substances once commonly used as refrigerants, are the subject of global restrictions under the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, an international treaty.

In proposing the ban, the Commission said that even when banned refrigerants are removed prior to export, old refrigerators and freezers still contain about twice as much CFCs in the form of insulating foam manufactured using CFCs as foaming agents

Deputies approved the draft by a show of hands, without debate, subject to 25 amendments. The changes had been discussed in advance with the Council

of Ministers, the body that represents the 15 EU state governments. The procedure leaves ministers free to sign the amended draft into law in the coming weeks. The regulation will enter into force on the 20th day following publication of the final text.

The amended CFC rules will allow some exemptions. Under the current wording, the CFC export ban covers all products and equipment containing insulating foam--which could mean that second-hand aircraft, railway wagons, ships, and vehicles containing foam blown with CFCs could not be sold outside the EU. Refitting used aircraft, in particular, would be "very costly and not economically attractive, given their age," according to the Commission.

15. EU Commission's Road Toll Proposal Claimed to Lead to More Air Pollution

A leading European Union environmental group, Transport and Environment, has criticized proposed legislation from the European Commission that would regulate the pricing structure for road tolls and how the revenue can be spent, saying that it is harmful to the environment. Transport and Environment said the European Commission proposal, put forward July 23, would lead to increased road construction and subsequently more air pollution, especially greenhouse gas emissions such as carbon dioxide emissions.

The European Commission proposed to revise EU legislation (1999/62/EC) that establishes rules for road charges applied to heavy vehicles (12 tons or more). The Commission said the rules need to be revised to establish a harmonized system that does not disrupt the functioning of the single market. At the same time, the EU

executive body insisted the revised rules would help eliminate congestion and environmental damage from the road transport sector.

Among other things, the proposal would lower the limit on the size of vehicles on which road tolls can be assessed based on the environmental performance. Currently, lower fees on vehicles with the highest emission standards are limited to vehicles of 12 tons or more. The new proposal would lower the threshold to 3.5 tons.

In addition, the new proposal also would allow revenue from tolls to be used to finance alternative transport infrastructure such as tunnels for rail freight. The new rules would only apply to the main European highways defined as Trans European Networks, which represent 60,000 kilometers (37,500 miles) of motorways in the EU.

However, the Transport and Environment group said the overall thrust of the proposal was designed to expand road construction. It also criticized the plan for limiting its application to Trans-European Network roadways and to vehicles 3.5 tons or more. The environmental group said the proposal should cover all roads and all vehicles.

T&E noted that the road transport sector is the fastest growing source of carbon dioxide emissions in the EU.

16. EU Green Taxation Trends Stabilize

EU statistical agency Eurostat has reported "first signs" of a European "green tax shift". According to Eurostat, total environmental taxes in the EU-15 countries virtually stabilized in 2001, at €237.7bn, after growing continuously for at least 20 years. The main reason was stagnation in energy taxes, which

account for the lion's share of all environmental taxes. An important factor could be tax cuts and freezes introduced after road fuel tax protests swept Europe in 2000.

Environmental taxes as a proportion of all taxes fell in 2001 from 6.6% to 6.5%. Environmental taxes as a share of GDP fell from 2.8% to 2.7%. Both shares were down for the second year running and both reached their lowest levels since 1992. The data further suggest a falling importance for green taxes.

17. EU Parliament OKs Emissions Trading Plan For Stationary Sources

A plan by the European Union to create the world's first international greenhouse gas emissions trading market has been cleared by the European Parliament. Central to Europe's effort to meet Kyoto Protocol commitments to reduce greenhouse gas emissions, the scheme will cover industrial sectors that together account for 46 percent of the EU's carbon dioxide emissions.

As from Jan. 1, 2005, companies will need an allowance of tradable credits in order to emit CO₂. If they succeed in reducing emissions, they will be able to sell unused credits to other companies. If they exceed their allocated allowance, they face penalties equivalent to [euro]40 (\$43) per metric ton of extra CO₂.

"It means that the largest emissions trading scheme in the world to date will be a reality from 2005, and that the architecture foreseen under the Kyoto Protocol is coming to life," said EU Environment Commissioner Margot Wallström. "Companies across 25 countries must now start incorporating climate change into day-to-day commercial decisions and begin assessing what innovative steps they

can take to reduce emissions."

The draft directive now goes to the Council of Ministers for signature on behalf of the 15 EU state governments. The directive will enter into force on the day of its publication in the *Official Journal*. States must then transpose the directive's requirements into national law by Dec. 31.

Meanwhile, the European Commission--the EU's executive arm--is required to publish by Sept. 30 guidelines as to how national authorities should monitor emissions and establish reporting systems.

The scheme is partly inspired by experience gained in the United States with sulfur emissions trading, according to Wallström, in commending the draft to the Parliament. She also made an indirect appeal to the United States to heed the efforts of the European Union. "When the EU signed up to the Kyoto Protocol, we knew that this commitment would require solid action to follow...", she said. "I hope that other countries become inspired by our progress in order that global action is taken to protect current and future generations from climate change."

Initially, the EU scheme will be confined to emissions from major sources, including power stations, refineries, steelmaking plants, coke ovens, and cement kilns.

The final changes voted through in the compromise package include:

- **Method of allocating allowances:** Auctioning has been extended to the first phase of the scheme. Member States now have the discretion to auction up to 5% of allowances in the first phase (2005-07), and up to 10% of allowances in the second phase of the scheme (2008-12). The remainder

of the allowances will be allocated free-of-charge.

- **Quantity of allowances allocated:** Further safeguards protecting against the over-allocation of allowances have been added. Plus, the Directive now explicitly states that Member States must show that they are on a path to meeting their Kyoto Protocol obligations (2008-12) when proposing the quantity of allowances to be allocated to companies in the first phase (2005-07).
- **Credits from the Kyoto Protocol project mechanisms (Joint Implementation and the Clean Development Mechanism):** New text emphasizes the importance of the Community undertaking domestic action to achieve greenhouse gas emission reductions, alongside using credits resulting from emission reductions made outside the Community.
- **Future extension of the scheme to other sectors:** The Commission will assess the coverage of the scheme in 2004 and 2006 with a view to the possible inclusion of other sectors, for example, the chemical, aluminum and transport sectors.

18. EU, U.S. Launch Program to Develop Hydrogen-Based Generation Systems

The European Union and the United States launched a cooperative research program June 16 to propel the development of hydrogen-based power generation systems such as fuel cell technology. Although environmental groups warn that the environmental benefits of hydrogen energy systems would be nullified if the fuel is produced by nuclear and coal-fired power plants, European Commission President Romano Prodi and U.S. Department of Energy Secretary Spencer Abraham

both insisted that wind, solar, and biomass energy would in the long-run be used to make the emissions-free hydrogen.

Prodi and other Commission officials emphasized that EU dependency on foreign energy sources as well as the need to reduce greenhouse gases required by the Kyoto Protocol also were a driving force behind EU efforts to develop hydrogen power sources. Abraham also insisted that it was the U.S. administration's belief that hydrogen energy would go a long way to help the world's largest emitter of greenhouse gases deal "with the problems of carbon-based fuels."

Abraham highlighted what he said was \$1.7 billion in research and development the U.S. Department of Energy was spending over the next five years on hydrogen vehicles and hydrogen infrastructure technologies.

The Commission said it is spending approximately \$350 million over the next five years on hydrogen energy research.

The EU-U.S. agreement is composed of a seven-point plan to pursue joint initiatives to develop:

- fuel cells as auxiliary power units;
- transportation vehicle demonstrations, including fueling infrastructure;
- codes and standards, including for fuel infrastructure, vehicles, and auxiliary power units;
- fuel choice studies and socioeconomic assessment of critical materials available for lower temperature fuel cells;
- solid oxide fuel cells and high temperature fuel cell turbine hybrid systems;
- direct methanol and polymer electrolyte membrane fuel cells for transportation and stationary applications; and
- to support studies, including socioeconomic assessment of critical rare earth materials for high temperature fuels cells.

19. Denmark Decides To Push Diesel PM Filters

A serious debate has been underway in Denmark regarding what to do about the severe environmental problems associated with diesel PM emissions. Among the issues being discussed and debated along the lines of promotion of vehicles with reduced particulate emissions were the following:

- Requirement (legal) of filters on existing trucks and busses,
- Subsidies to owners of trucks and busses if filters are installed,
- Tax incentives for Euro 4-trucks and busses,
- Tax incentives for sulphur free fuels,
- Introduction of environmental zones in the biggest cities, and
- Tax incentives for passenger cars with filters

In general, the current government is opposed to increasing taxes and therefore increased government spending but at the same time the very controversial Institute for Environmental Assessment headed by Mr. Lomborg, which is a creation of this government, some months ago published a report where the conclusion was that installation of filters on all existing diesel trucks and busses can be recommended from an economic point of view. The IMV calculated that fitting particle filters to diesel engines would yield a "maximum possible gain" of

DKr83bn (€11.2bn) over the next 15 years. Unlike previous cost-benefit analyses that tended to focus only on heavy vehicles (over 3.5 tons), vans and taxis were included in this study because of their prevalence in urban areas. The study takes into account the public health impact of filtering out ultrafine as well as fine particles, with calculations being made "partly on the basis of pure cost and partly on... willingness to pay". It concluded that fitting particle filters to all diesel engines would save up to 1,250 lives per year and DKr83bn over 15 years through avoided health impacts.

Another report was published on the 6th of June with its main conclusions being:

- PM is a serious problem
- Denmark will support work in the EU for more stringent PM-standards
- More research is necessary
- Local initiatives with definition of environmental zones in big cities are important

After some discussion in the media and the government an agreement was reached (24th June) between the government and two supporting parties in Parliament. In the years 2004 and 2005, Denmark is to spend DKr30m (€4m) subsidizing up to 30% of the cost of fitting diesel particle filters to lorries.

The background is that the city of Copenhagen has decided to create environmental zones, where PM filters will be required - from 1. October 2004. The 30m DKr will support this initiative.

20. PSA Particulate Filter-Equipped Vehicle Sales Go Over Half Million Mark

PSA Peugeot Citroen announced that the PSA Group has sold more than 500,000 diesel particulate filter-

equipped vehicles since the system was introduced on the Peugeot 607 2.2 HDi in May 2000. Unveiled in April 1999, the particulate filter system was first installed on the Peugeot 607, and then on the Citroen C5, the Peugeot 406 and 307, and the Peugeot 807 and Citroen C8 MPVs.

Today, Peugeot and Citroen offer six vehicle families with the particulate filter system. In the next two years, the number will increase to 11 and total production will rise to one million particulate filter-equipped vehicles.

The first generation of particulate filters required servicing every 80,000 km. Following a sustained R&D drive, PSA Peugeot Citroen introduced a new system in November 2002 that, depending on the version, can go without servicing for 120,000 km thanks to a new additive. With the deployment of a new filter medium architecture known as "octosquare" (in reference to the shape of the filter's intake channels), PSA Peugeot Citroen will launch a particulate filter that does not need servicing in 2004.

As the particulate filter is gradually extended to other models, the diesel engine will continue to gain market share and expand its unique role in combating against the greenhouse effect—an issue of key importance in our planet's sustainable development.

21. Swiss Put Climate Tax Options On The Table

The Swiss government is considering the introduction of a new climate levy on fossil fuels used in transport to bolster the country's measures to meet its Kyoto target of an 8% cut in carbon dioxide (CO₂) emissions by 2008-12, compared with 1990. Some form of energy tax was anticipated in

Switzerland's 1999 CO2 law, should the country not be on track to cut CO2 emissions by 2004, but this is the first discussion of specific measures.

With the Kyoto target unlikely to be met through voluntary instruments alone, ministers will now look at four tax options of between one and 30 SFr-cent (eurocents 0.65-19.5) per liter.

The lowest levy is the "cent for the environment" proposed by the association representing fuel suppliers. Potentially worth SFr70m a year, it could be used to fund the purchase of CO2 certificates abroad and national climate measures, the association says.

Two options combine this proposal with a government energy tax. The final option envisages imposing an energy tax of 30 cent a liter alone, and would not require the purchase of CO2 certificates. Any of the four options would enable Switzerland to meet its CO2 target, the environment agency says.

22. European Court Rules Heathrow Noise Does Not Violate Locals' Rights

The European Court of Human Rights (ECHR) rejected a claim July 8 that night flight noise at London's Heathrow Airport violates the human rights of homeowners in the area, a move cheered by the British government but labeled a disappointing setback by environmental groups. In a 12-5 decision, the court rejected arguments that the flights breach citizens' right to the "peaceful enjoyment" and "privacy" of their homes, overturning a ruling handed down Oct. 2, 2001, by a lower division of the ECHR. No further appeal is possible.

As in previous ECHR cases involving

environmental issues, homeowners living around Heathrow based their case on their rights to "respect for private and family life" under Article 8 of the 1950 European Convention, a treaty ratified by the 45 member states of the Council of Europe. The ECHR has the last word on interpreting the Convention.

But the ECHR's Grand Chamber said the flights did not violate Article 8, ruling that Article 8 permits restrictions on the right to respect for private and family life "in the interests of the economic well-being of the country and for the protection of the rights and freedoms of others."

In its rejection of the Article 8 complaint, the Grand Chamber pointed out that Article 8 allows restrictions on citizen rights to "peaceful enjoyment" and "privacy" of their homes when those rights collide with national economic interests and the rights of others. It was therefore "legitimate" for the U.K. government to have "taken into consideration the interests of the airline operators and other enterprises and the economic interests of the country as a whole," the court said.

British Airways had estimated the cost of switching flight times could have run as high as £320 million (\$523 million) for itself alone. It said an end to night flights would have had a major impact on British airlines by giving rival European companies an unfair advantage. British Airways said night flights operated by it and other airlines contribute around £2.2 billion (\$3.6 billion) to the U.K. economy and support 9,490 jobs in aviation and 10,600 in auxiliary industries.

Still, the 17-member panel voted 16-1 that there had been a breach of Article 13 of the European Convention, which guarantees the "right to an effective remedy" in national courts.

Meanwhile, the U.K. government is

continuing with its review of aviation policy. That government consultation, which the government's Department of Transport announced earlier this year, will take place next year.

The Grand Chamber's ruling was on an appeal by the U.K. government against the earlier judgment, when the eight applicants were awarded \$6,600 each for non-pecuniary damage and a total of \$115,500 for costs and expenses. The Grand Chamber reduced the award for costs and expenses to \$82,500, and it ruled that the finding of a violation of Article 13 constituted "just satisfaction."

23. Wallström Pushes Fluorinated Gas Restrictions

The European Commission's environment directorate has made firm proposals to ban the fluorinated greenhouse gas HFC-134a in vehicle air conditioning by 2012. It is the most widely used refrigerant in this application. An EU regulation being drafted by Ms Wallström's department sets a target of cutting all F-gas emissions by 23m tons of carbon dioxide-equivalent by 2010. Her proposals still need the consent of other Commission departments and consultations are ongoing.

Under the environment directorate's plans, HFC-134a in mobile air conditioning would be phased out through an annual transferable quota scheme. Carmakers would be able to "bank" quotas from one year until the next until the final 2012 cut-off date. Even beyond this, some quotas could be used to service "niche markets" until 2018. Manufacturers installing less leaky air-conditioning systems would be entitled to larger quotas.

The other elements of the package are in line with suggestions from the F-

gases working group set up under the European climate change program: a general obligation to prevent F-gas leakage from equipment, annual inspection requirements and some maximum leakage standards. There would also be a series of bans on F-gases in certain products, such as windows, shoes and some foams.

24. Polish Parliament Approves Bill Mandating Use of Biofuels to Reduce Toxic Emissions

The Polish Parliament July 10 approved legislation on biofuels on a 301-89 vote, with 28 abstentions. It provides that starting from Oct. 1, 2003, from 3.5 percent to 5 percent of biological components, mostly derived from rapeseed, will be added to gasoline and diesel oil. A law mandating use of more environment-friendly biofuels in commercial and passenger vehicles starting from Oct. 1, 2003, will help decrease the emission of carcinogenic pollutants, carbon monoxide and nitrogen oxides, into the air. According to a Polish Environment Ministry official.

President Aleksander Kwasniewski is expected to sign the legislation into law in a couple of weeks so that it could take effect on Oct. 1. Time is needed to add separate fuel pumps at refueling stations where fuel with added bio-components is used. The fuel is going to be less expensive than ordinary fuel of the same octane rating.

On the recommendation of the European Commission two years ago, EU country members started developing the production of biofuels. For example, Italy makes 550,000 tons of bio-diesel fuel annually, France 280,000 tons, and Germany 250,000 tons. Poland, which is scheduled to join the EU with nine other countries on May 1, 2004, makes about 6,000 tons of biofuels annually. The

country plans to reach a target of 60,000 tons in two years, the Environment Ministry said.

25. Program to Promote Environment-Friendly Transport Approved by European Parliament

The European Parliament approved a plan on July 3rd to spend [euro] 86 million (\$97.18 million) on a new, four-year program to help promote environmentally friendly transport solutions so as to help reduce greenhouse gas and other emissions from freight traveling by truck. The program, called "Marco Polo," will offer subsidies to projects in the 15 current member states of the EU, 10 states due to join the European Union, and neighboring Norway and Switzerland.

Since the legislation was in its second reading before the Parliament and there were no amendments, the draft was declared approved by the chair. The proposal had already been approved by the Parliament in a preliminary vote Sept. 25, 2002, when 27 amendments were introduced. EU environment ministers, who also have to agree to the plan, contested some of the changes but a compromise version was agreed between parliamentarians and ministers at informal talks in November 2002.

Parliamentarians agreed to a reduction in the time span of the program, from five years to four, in light of ministers' reluctance to commit funding too far ahead. The program will now run through 2006.

The program is designed to promote the use of rail, inland waterways, and short sea shipping as an alternative to moving freight by trucks. Estimates are that 12 billion tons of freight moves annually through the EU by road. Late changes to the program are intended to

encourage smaller freight operators to form consortia, which would benefit from "Marco Polo" funding. Typically, a consortium of freight firms that sets up a pooling system to switch freight from road to a more environment friendly form of transport ("modal shift") could benefit from a subsidy of [euro] 1 (\$1.15) for each shift of 500 metric tons of freight per kilometer of journey distance.

The program will support development of better practices in all segments of short sea shipping, rail, and inland waterway freight logistics markets.

"Marco Polo" also will offer start-up aid for new services in the nonroad freight market.

26. The European Commission Launches A Strategy To Reduce Diseases Linked To Environmental Factors.

There is a strong link between poor health and environmental problems. A recent report from the European Environmental Agency, EEA, shows that as many as 60 000 deaths per year in large European cities are caused by long-term exposure to air pollution. Children are more exposed to environmental risks than adults. One child in seven is affected by asthma. Compared to 30 years ago this is a dramatic increase. In order to reverse this alarming trend the European Commission is launching **A European Environment and Health Strategy**. With this new strategy the Commission expects to achieve a better understanding of the complex relationship between environment and health and to identify and reduce diseases caused by environmental factors.

A. Five key elements

The strategy is known as **SCALE** and relies on five key elements:

It will be based on **Science** to broaden our perspective on the often very complex link between environment and health. Traditionally, environmental assessments and policy action have focused on single pollutants in single environmental compartments, such as air, water or soil. There is, however, a strong need to look into how different pollutant react together. We need to understand better how pollutants move in the environment and how we come in contact with them - through air, water, food, and consumer products. We also need to understand how the human body reacts, over a period of time, to the continuous exposure to different pollutants, inter-acting between each other, often at a low level.

We will focus on **Children** since they are particularly vulnerable to environmental hazards. There are **157** million children in Europe. Most of them live in urban areas with particular environmental problems that must be addressed. The Commission will be launching pilot actions on pollutants with specific relevance to children, including dioxins, heavy metals and endocrine disrupters (chemicals that affect the hormone system). Together with the World Health Organization, WHO, and the EU Member States, we will establish indicators and bio-monitoring systems that will help us better to understand where, how and why children are affected.

We have to raise **Awareness** of the environmental-health problems and how they can be solved. Citizens have the right to know about these problems, in particular those affecting children. Policy-makers and stakeholders from both the environmental and health sector must increase their efforts to

communicate, both across the sectors and with the citizens.

The EU **Legislation** will complement national and international initiatives. It will be reviewed to reflect the special situation and needs of children.

All actions taken under the strategy will be **Evaluated** continuously. We will verify how effective they are in reducing environmental-related health problems. A constant evaluation will also allow us to address new problems as they emerge.

B. Four priority health effects

The European Environment and Health Strategy will be implemented in cycles. The first cycle, 2004 - 2010, will focus on four health effects:

- Childhood respiratory diseases, asthma, allergies
- Neurodevelopment disorders
- Childhood cancer
- Endocrine disrupting effects

C. Projects to Be Undertaken

Some of the work the Commission will pursue in the coming months includes:

- Developing--together with the World Health Organization and the EU member states--indicators and biomonitoring systems to assess the overall environmental impact on human health;
- Launching pilot programs on priority pollutants with specific relevance to children, including dioxins, endocrine disruptors, and heavy metals; and
- Pursuing actions with the aim of reducing exposure to dangerous substances, with a special emphasis on indoor and outdoor air quality, heavy metals, electromagnetic fields, and healthy urban environments.

D. What happens next?

The detailed actions of the strategy will be prepared based on extensive consultations with experts and stakeholders from the environment, health and research fields in all parts of the enlarged Europe. Working groups covering the priority health effects and monitoring activities will be set up and participate in three regional conferences during Autumn 2003. The work will emanate in an Action Plan for the period 2004-2010, which the Commission will adopt in spring 2004. The Action Plan will be presented prior to the Inter-Ministerial Conference on Environment and Health in Budapest in June 2004, focusing particularly on children's health and environment.

27. Children's Environmental Health Risks Studied in Germany

The German environment agency has commissioned the nation's first detailed study of the environmental health risks facing children, for completion in March 2006. Researchers from the Robert Koch institute will evaluate 1,800 children between the ages of three and 14, looking, for example, at air and noise pollution, diet and exposure to tobacco smoke. The announcement follows publication of an EU strategy on environment and health in June. (see above)

28. Swiss Report Cites Sharp Drop In Volatile Organic Compound Emissions

Emissions of volatile organic compounds (VOCs) dropped sharply in Switzerland between 1991 and 2001, thanks to measures such as requiring catalytic converters on automobiles and

imposing a tax on VOC emissions, the country's environment agency said June 6. According to the Swiss Federal Office of Environment, Forests, and Landscape, VOC emissions dropped 41 percent during that period, with emissions of benzene alone falling 50 percent. VOC emissions reached their peak in the early 1980s at 325,000 metric tons a year.

In 2000 the Swiss government began levying a tax on VOC emissions. The tax was initially fixed at SFr2 (\$1.54) per kilogram of VOC, and rose to SFr3 (\$2.31) starting in January 2003. The tax is applied to more than 20 industrial sectors, including the chemical, electronics, and metallurgy sectors as well as other businesses using VOC solvents and fuels.

Switzerland also passed a law reducing the maximum benzene content in gasoline by 80 percent.

29. EU Parliament, Commission Debate Cuts In Sulfur Content of Ships' Fuel

On June 4th, the European Parliament approved clean fuel legislation that initially would reduce the sulfur content of marine fuels in the European Union by more than 40 percent. Designed to reduce harm to the environment and human health caused by sulfur emissions from shipping, the measure--approved on a 498-1 vote, with 10 abstentions--included amendments that also would commit the EU to further, tougher sulfur content restrictions by 2009.

However, those "stage two" limits would reduce the sulfur in fuel used by much of the shipping in EU waters to less than one-fifth of current permitted levels, a measure deemed "premature" by EU Environment Commissioner Margot

Wallström. Still, further amendments introduced by the Parliament would offer exemptions to ship operators who install equipment to curb harmful emissions.

The Council of Ministers, which represents the EU state governments, will now consider their own position on the draft in light of the Parliament's amendments.

The new directive forms part of an EU-wide strategy on shipping emissions proposed in late 2002 by the European Commission.

As approved by Parliament, the directive would require the sulfur content in marine fuel used in the EU to be reduced from 2.7 percent (27,000 parts per million, ppm) to 1.5 percent (15,000 ppm), a requirement that would take effect 12 months after the measure enters into force. According to Commission estimates, this reduction in sulfur content would cut the amount of sulfur dioxide (SO₂) emissions in the EU by 500,000 metric tons each year.

Initially, the limit would apply to all shipping in the North Sea, the Baltic Sea, and the English Channel--three interconnected seaways that are heavily used by shipping. This sector is earmarked for priority action on sulfur emissions under the terms of MARPOL, the International Maritime Organization's 1973 International Convention for the Prevention of Pollution from Ships and its 1978 protocol.

And as of July 1, 2007, the proposed EU obligation to use the cleaner, 1.5 percent sulfur fuels would be extended to all passenger ships regularly using any EU port.

However, the Parliament went a step further, approving an amendment that would impose a 0.5-percent sulfur content limit from Dec. 31, 2008. That

further reduction would apply to all shipping in the North Sea/Baltic Sea/English Channel region and to passenger vessels regularly using EU ports.

Wallström warned parliamentarians that she would not support their "premature" suggestion of a cut to 0.5 percent by 2009 when the Council of Ministers discusses the draft, suggesting the 1.5-percent limit is sufficient. She noted that the legislation's 1.5-percent limit essentially adopts into EU law sulfur content restrictions laid down in a 1997 MARPOL protocol, which added an Annex VI governing the sulfur content in ships' fuel. Specifically, Annex VI established a global sulfur cap of 4.5 percent for heavy fuel oils burned by ships, and it designated sensitive areas, so-called SO_x Emission Control Areas (SO_xECAs) in which the sulfur content limit must be below 1.5 percent or equivalent abatement technologies must be used.

Annex VI, however, has yet to enter into force, and it will not do so until it has been ratified by at least 15 flag states representing at least 50 percent of the gross tonnage of the world's merchant shipping. As of the date of the Commission proposal, only six countries had ratified Annex VI: Sweden, Norway, Singapore, the Bahamas, the Marshall Islands, and Liberia, representing about 25 percent of world tonnage. Even if Sweden's 14 EU partner states all ratify the annex, this would add only 10 percent to the current 25-percent total.

So, the Commission proposed adopting the 1.5-percent sulfur content limit for the Baltic Sea/North Sea/English Channel SO_x Emission Control Area under EU law without waiting for the entry into force of the MARPOL protocol. In the event that the EU draft is overtaken by entry into force of the MARPOL rules, the Commission draft

calls for the 1.5-percent limit to be imposed 12 months after the MARPOL rules take effect. Thus, as advanced by the Commission, the 1.5-percent sulfur content restriction would take effect 12 months after either the EU legislation or the MARPOL rules come into force, whichever comes first.

According to estimates cited in Wallström's legislative draft, by 2010, ships' SO₂ emissions are likely to amount to more than 75 percent of all land-based emissions, including emissions from all transport modes and combustion plants.

Although refining processes required to remove sulfur are recognized as "energy-intensive," Wallström said she expects some overall reduction in carbon dioxide emissions due to the greater efficiency of ship engines running on cleaner fuels. This would help to meet the EU's Kyoto Protocol commitments to reduce greenhouse gas emissions.

And while she opposed Parliament's call for a 0.5-percent sulfur content limit by 2009, Wallström went along with parliamentary demands that ship owners could be exempted from the obligation to buy low-sulfur fuels if they agree to fit their vessels with exhaust gas scrubbing equipment that "washes out" pollutants from the emissions. The commissioner acknowledged that exhaust gas treatment is allowed under the MARPOL rules as "an alternative means of compliance." But she insisted that the technology would have to meet another MARPOL condition: that there should be no emissions of harmful effluent into enclosed waters. "We should not simply replace one environmental problem with another," she said.

Wallström added that the technology "appears to offer potential benefits,

reducing sulfur dioxide emissions, nitrogen oxides, and particles," and it might cost less than switching fuels for ships that frequently sail in EU waters. "Subject to successful sea trials, the Commission believes that scrubbing can indeed be considered an alternative to low-sulfur fuels," she said.

30. EU Member States Reach Agreement On 'Polluter Pays'

After more than a decade of negotiation, European Union member states bridged the gap June 13 on key issues and all but finalized environmental liability legislation designed to enshrine the "polluter pays" principle into EU law.

After important concessions to France and the United Kingdom, a compromise was reached on the scope of the directive, exemptions for companies that have certain permits, the responsibility of states in cases where the source of environmental damage is hard to define, and whether companies should be required to obtain insurance.

Remaining questions on "technical" definitions of what qualifies as damage to protected animal species and nature reserves must be resolved. EU member states must reach that resolution in the coming weeks before a final deal in the Council of Environment Ministers is officially concluded.

Although a major accomplishment, there is still a ways to go before the legislation becomes law. The European Parliament, which has veto power on the legislation, has already approved a much stricter version of the law during its first of two readings. The second reading is due to take place later in 2003, but the precise date will not be clear until the Council of Ministers clears up its version of the legislation.

One of the most important differences between the member state agreement and the European Parliament concerns the scope of the legislation since member states agreed to exclude the nuclear power and oil industries from the legislation.

Another important difference concerns what is termed "permit defense." The member states have dropped their insistence that if a company has a permit to release emissions, it would not be held liable for any resulting damage but they agreed that national member states could issue exemptions. The European Parliament wants no exemptions.

The issue of mandatory insurance is also a key difference between the two institutions. The European Parliament wants companies to be required to obtain insurance coverage as soon as the directive takes effect, which will be approximately three years after it is finally approved. However, the member states, at the insistence of France and the United Kingdom, agreed that no insurance for companies would be required.

On the issue of national government responsibility in the event a company has gone bankrupt before it is liable for damage, the Council of Ministers agreed that member states have the option of setting up a regime for what is known as "state" liability. The European Parliament wants mandatory national regimes to cover any damage that cannot be traced to a company.

31. Danish Report to UN Predicts 15-Percent Upswing in Emissions

Denmark plans to take advantage of greenhouse-gas reduction projects overseas to help meet its obligations under the Kyoto Protocol due to

projected emission increases at home. In its *Third National Communication on Climate Change*, submitted June 2 to the United Nations, the Danish Environmental Protection Agency said it expects greenhouse gas emissions to increase about 15 percent, to 80 million tons, by 2010 when compared with 1990 emissions levels. Under the U.N. Framework Convention on Climate Change's Kyoto Protocol and a related European Union agreement, the country is obligated to emit no more than 55 tons of emissions by 2010.

The report was submitted just one day before the United Nations released a report titled *Compilation and Synthesis of Third National Communications*. That report predicted that, despite stabilization of greenhouse gas emissions from industrialized countries in the 1990s, those nations' emissions would rise 17 percent between 2000 and 2010.

Nevertheless, the country will meet its treaty obligations by relying on Kyoto mechanisms allowing countries to buy, trade, and earn extra emission-reduction credits or allowances through foreign investments and other actions. For instance, Denmark will gain credit for any emission reductions from a fuel-switching project in Romania it agreed to pay for March 7. In addition, the Danish government is in advanced talks with Bulgaria, Estonia, Moldova, and Slovakia about renewable energy and energy efficiency projects as well.

In its "Proposal for a Climate Strategy for Denmark," released Feb. 26, the Danish government said investing in emissions reduction and avoidance projects abroad, as well as using emissions trading, will be much less expensive than meeting the nation's Kyoto target through domestic actions alone, possibly slashing compliance costs up to 40 percent a year between

2008 and 2012.

32. EU, U.S. Launch Program to Develop Hydrogen-Based Systems

The European Union and the United States launched a cooperative research program June 16 to propel the development of hydrogen-based power generation systems such as fuel cell technology.

Prodi and other Commission officials emphasized that EU dependency on foreign energy sources as well as the need to reduce greenhouse gases required by the Kyoto Protocol also were a driving force behind EU efforts to develop hydrogen power sources.

Abraham also insisted that it was the U.S. administration's belief that hydrogen energy would go a long way to help the world's largest emitter of greenhouse gases deal "with the problems of carbon-based fuels."

Abraham highlighted what he said was \$1.7 billion in research and development the U.S. Department of Energy was spending over the next five years on hydrogen vehicles and hydrogen infrastructure technologies.

The Commission said it is spending approximately \$350 million over the next five years on hydrogen energy research.

The EU-US. agreement is composed of a seven-point plan to pursue joint initiatives to develop:

- Fuel cells as auxiliary power units;
- Transportation vehicle demonstrations, including fueling infrastructure;
- Codes and standards, including for fuel infrastructure, vehicles, and auxiliary power units;

- Fuel choice studies and socioeconomic assessment of critical materials available for lower temperature fuel cells;
- Solid oxide fuel cells and high temperature fuel cell turbine hybrid systems;
- Direct methanol and polymer electrolyte membrane fuel cells for transportation and stationary applications; and
- To support studies, including socioeconomic assessment of critical rare earth materials for high temperature fuels cells.

NORTH AMERICA

33. Utah Governor Named EPA Administrator

President Bush has chosen Utah Gov. Mike Leavitt, a vocal advocate of "states' rights" on environmental matters, to lead the Environmental Protection Agency.

Democrats and environmental groups criticized the appointment, a sign they may try to turn Leavitt's confirmation into a politically charged examination of Bush's environmental policies.

The nominee vowed to improve the nation's air quality.

If confirmed by the Senate, Leavitt would succeed Christine Todd Whitman, a former New Jersey governor who resigned as head of the EPA in May.

The president announced his choice in Denver, during a Western speaking tour in which he has promoted his administration's forest policies.

Word that Bush had settled on Leavitt to succeed Whitman was circulating among well-connected business groups in Washington hours before the

president's announcement.

Sen. Joe Lieberman of Connecticut, a candidate for the Democratic presidential nomination, declared Bush the "worst" president ever for the environment and served notice that Leavitt's confirmation process likely will not be an easy one.

34. EPA Issues PM Nonattainment Guidance

EPA has issued long-awaited guidance for determining the boundaries of fine particle nonattainment areas.

States are poised to begin the process of identifying and drawing the boundaries around new nonattainment areas that violate the new 24-hour and annual average PM_{2.5} standards established in 1997. This will be a highly controversial process and citizen participation at the state and local level is needed to ensure that nonattainment areas are properly designated.

In the past, many PM₁₀ nonattainment areas had **postage stamp sized boundaries**, limiting the geographic extent of pollution control requirements.

Because of the regional nature of the PM_{2.5} problem, EPA is encouraging states to use metropolitan area boundaries to designate fine particle nonattainment areas. This is consistent with Section 107(d) of the Clean Air Act which requires that nonattainment areas include "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant." However, EPA will consider State and Tribal recommendations for boundaries that deviate from this presumption, hence the importance of citizen involvement at the state level.

Key issues receiving attention include:

- **Shrinking Boundaries:** For urban areas, the guidance recommends that all counties in the Metropolitan Statistical Area (or Consolidated Metropolitan Statistical Area) be included in the nonattainment area designated, even if there are monitors in only a few counties in the region. The guidance allows States some wiggle room to exclude portions of a metropolitan area from the nonattainment area based on factors such as emissions sources, traffic patterns, population density, growth patterns, topography, etc.
- **Expanding Boundaries Beyond MSA:** The same factors mentioned above may be used to include additional nearby areas as part of the nonattainment area, but this will likely only happen with vigorous advocacy by citizen groups.
- **Spatial Averaging Loophole:** If individual monitors show violations of the annual average standard, they may be averaged with other monitors to designate the area as attainment. Only monitors that have been previously designated for spatial averaging in State monitoring plans are eligible for this averaging loophole. Only a few

such monitors have been identified to date, but States may move to amend their monitoring plans to designate additional monitors for spatial averaging, subject to notice and comment requirements.

■ **Hot Spot Monitor Loophole:**

Paradoxically, EPA monitoring regulations allow States to exclude sites that monitor source-oriented hot spots from nonattainment determinations for the annual average standard. In other words, the monitoring sites that are expected to record the highest fine particle concentrations are not to be used to determine violations of the annual standard. Currently there are only 7-10 hot spot monitors identified, however, States might move to reclassify additional sites as source-oriented to avoid a nonattainment designation. (Hot spot monitors can be used to measure nonattainment with the 24-hour standard, but that standard is so lenient there are unlikely to be any sites that actually violate it.)

■ **Lack of Public Comment Period:**

The statute permits EPA to take final action on designations without first proposing a rule. The

mechanism for public participation on the federal changes to state recommendations is ambiguous. EPA is considering posting any changes to the state recommendations on a website for possible public comment.

35. EPA Issues First Draft Staff Paper for Particulate Matter

The EPA is currently reviewing the NAAQS for PM. Sections 108 and 109 of the CAA require that EPA carry out a periodic review and revision, where appropriate, of the scientific criteria and the NAAQS for "criteria" air pollutants such as PM. The Office of Air Quality Planning and Standards (OAQPS) within EPA's Office of Air and Radiation will soon make available for public review and comment a draft document, Review of the National Ambient Air Quality Standards for Particulate Matter: Policy Assessment of Scientific and Technical Information (First Draft Staff Paper).

The purpose of the Staff Paper is to evaluate the policy implications of the key scientific and technical information contained in a related EPA document, Air Quality Criteria for Particulate Matter (AQCD), and identify critical elements that EPA staff believe should be considered in reviewing the PM NAAQS. The Staff Paper is intended to "bridge the gap" between the scientific review contained in the Air Quality Criteria document and the public health and welfare policy judgments required of the Administrator in reviewing the NAAQS. In June, 2001, a preliminary draft of this Staff Paper was released for public review and comment and for consultation with the Clean Air Scientific Advisory Committee (CASAC) at a

public meeting in July 2001. The preliminary draft Staff Paper was based on information contained in the second external review draft of the AQCD that was previously made available by the National Center for Environmental Assessment of EPA's Office of Research and Development for public review and comment. A fourth external review draft of the AQCD has recently been made available for public review and comment and for review by CASAC at a public meeting on August 25-26, 2003.

Building upon the earlier preliminary draft Staff Paper, and taking into account the information in the fourth external review draft of the AQCD, this first draft Staff Paper includes results from initial staff analyses (e.g., analyses of air quality and visibility data, and human health risk analyses), plans for additional analyses to be incorporated into a subsequent draft of this document, and preliminary staff conclusions and recommendations on the PM NAAQS.

36. Canada Releases Discussion Draft For Off-Road Diesels

Environment Canada has prepared a Discussion Draft of the Off-Road Compression-Ignition Engine Emission Regulations for review and comment prior to the preparation of a formal proposal for publication in the Canada Gazette. The discussion draft will establish, for the first time in Canada, emission standards for diesel engines typically found in agricultural, construction, forestry and mining applications. The proposed regulations will apply to 2006 and later model-year engines.

This is the second of a series of planned emissions regulations for off-road engines. The Off-Road Small Spark-

Ignition Engine Emission Regulations were published in the Canada Gazette Part I on March 29, 2003. Future proposed regulations will address outboard engines and personal watercraft, recreational vehicles including snowmobiles and all-terrain vehicles, and large spark-ignition engines.

37. Cummins, SCAQMD to Co-Develop Cleaner Natural Gas Engine

Cummins Westport, Inc. (CWI) recently announced that the South Coast Air Quality Management District (SCAQMD) and Cummins, Inc. have signed an agreement "to develop key technology that could allow CWI's mid-range natural gas engines to meet U.S. [Environmental Protection Agency (EPA)] 2010 emissions standards years ahead of the regulatory schedule."

According to CWI, the project team will "develop and demonstrate a prototype engine based on the application of cooled exhaust gas recirculation (EGR) in conjunction with a simple after-treatment system to [CWI's] current line of lean-burn, spark-ignited natural gas engines."

If successful, CWI said the program could result in the introduction of demonstration engines "in 2005 to 2006."

CWI noted that the project, which will be equally funded by SCAQMD and Cummins, "is in cooperation with the Department of Energy and the National Renewable Energy Laboratory under the Next Generation Natural Gas Vehicle program."

38. Canadian Commission To Review MMT

The issue of whether MMT (Methylcyclopentadienyl Manganese Tricarbonyl) damages catalysts is becoming more acute as vehicles roll off the assembly line with emissions control equipment designed to meet stricter U.S. emissions standards that begin to take effect next year. The new catalysts developed to meet the Tier II emissions standard employ a substrate with a greater cell density. Automakers contend the manganese in MMT clogs these cells. MMT is blended in 80 to 85 percent of Canadian gasoline.

Natural Resources Canada has reportedly decided to form a third-party review process. The format for the investigation has not been decided on, nor have the members of the panel been chosen.

Anxiety over the effects of MMT on vehicle emissions, fuel economy and performance reaches beyond Canada. For example, MMT is apparently finding its way into the U.S. market.

First, MMT is currently being blended by refiners in gasoline destined for the Four Corners (Utah, Colorado, New Mexico and Arizona) area of the country. Secondly, U.S. motorists driving to Canada are filling up and coming back to the U.S. with MMT blended gasoline in their tanks. Finally, as the gasoline market shifts in response to state, and potentially federal bans of MTBE, another high-octane gasoline blending component, MMT may increasingly find its way into the U.S. market, particularly in the Northeast. A substantial amount of the gasoline sold in the Northeast is imported from Canadian refineries located in the Canadian Maritime provinces of Newfoundland and New Brunswick. Currently much of the gasoline these refineries produce is blended with MTBE to meet reformulated gasoline standards in regions of the U.S. that do not meet

federal air quality standards. Canadian gasoline often is blended with MMT (methylcyclopentadienyl manganese tricarbonyl) as an octane enhancer and fuel blended with this additive may find its way into the Northeast U.S. as an MTBE replacement after the first of the year.

There also appears to be growing demand for MMT in emerging economies that are undertaking lead phase-outs - including China, Eastern Europe, Russia and Sub-Saharan Africa.

If MMT damages advanced catalysts, its use in emerging nations using it as a substitute for the lead in gasoline would be effectively prohibited. This could condemn these emerging nations to more unhealthy air than would be the case were the advanced emission reduction technologies to find their way into their vehicle markets.

Concern over the effects of MMT is widespread in the auto industry and goes beyond the damage it allegedly causes to catalysts. An AAM study released last summer also concluded MMT leaves deposits within the engine, on spark plugs and valve seats, causing an increase in emissions in the exhaust stream before it reaches the catalytic converter.

The history of Ethyl Corp. and MMT use in Canada is fraught with controversy. After the Canadian government banned the additive in 1997, Ethyl Corp. initiated the first major trade dispute under NAFTA arguing the ban constituted an expropriation of the company's Canadian investment. The \$350 million Canadian (\$225 million U.S.) claim against the Canadian government was settled outside of the NAFTA trade dispute resolution process for \$20 million Canadian (\$13 million U.S.). The Canadians dropped the ban as a part of

the settlement.

39. New Jersey Considering CA Vehicle Standards

The New Jersey legislature is considering a plan to adopt California's low emission vehicle (LEV) and zero emission vehicle (ZEV) standards. More than 70 New Jersey legislators have either sponsored or endorsed the bill. If the bill became law, New Jersey would be the fifth state besides New York, Massachusetts, Maine and Vermont to adopt California's vehicle standards instead of the federal Tier 2 standards. Under the new standards, starting in 2006, all vehicles sold in New Jersey would have to meet California's Low Emission Vehicle standards (LEV II). And effective in 2012, two percent of all vehicles sold in New Jersey would have to be zero emission vehicles (ZEVs). The legislation is currently still pending.

40. Canada Announces \$1 Billion Toward Climate Change Implementation

The Government of Canada has announced the details of the investment of \$1 billion towards the implementation of the Climate Change Plan for Canada. This investment is part of the Budget 2003 allocation and builds on \$1.7 billion the Government of Canada has invested in climate change over the past five years.

The investments are intended to act as a catalyst for, and a complement to, actions by individual Canadians; industry and business; and governments and communities.

Individual Canadians - Incentives to encourage Canadians to make their homes more energy efficient, and investments in programs that will help

Canadians make environmentally-friendly transportation choices and purchasing decisions (\$131.4 million).

Industry and business - Help for business and industry to reduce emissions using available technologies in areas such as the buildings and transportation sector, and to work with the financial sector to invest in fast-growing tree plantations (\$302.9 million), as well as investments towards the development of new technologies that will help to reduce emissions over the longer-term and seize new economic opportunities (\$250 million). (This is in addition to \$250 million announced in Budget 2003 toward Sustainable Development Technology Canada and \$50 million towards the Canadian Foundation for Climate and Atmospheric Sciences).

Governments and communities - Funding for partnerships with provinces and territories on cost-effective emission reduction initiatives, as well as assisting Aboriginal and northern communities respond to climate change and demonstrating leadership by aggressively reducing Government of Canada emissions (\$320.7 million.)

Released on November 21, 2002, the Climate Change Plan for Canada is based on extensive consultations with provincial and territorial governments, industry, environmental organizations and individual Canadians. It sets out the strategy by which all Canadians and all sectors can work together to meet our Kyoto commitment to reduce greenhouse gas emissions to an average of six per cent below 1990 levels during the period 2008-2012.

Canada ratified the Kyoto Protocol on December 17, 2002. As of July 10, 2003, 111 countries have ratified or accessed the Kyoto Protocol.

The Government of Canada has committed more than \$3.7 billion to climate change programs and to the development of leading edge technologies over the past five years, including \$2 billion in Budget 2003 alone. Budget 2003 also allocated an additional \$3 billion to the Government of Canada's ongoing investment in the nation's infrastructure. This program will place an enhanced focus on projects that relate to helping meet Canada's climate change goals.

41. White House Issues Revised Global Warming Plan

The White House has issued a revised 10-year global warming research plan that sets five goals, chief among them identifying "natural variability" in climate change. The second goal is to find better ways of measuring climate effects from burning fossil fuels, industrial production of warming gases and changes in land use. Other goals are to reduce uncertainty in climate forecasting; to better understand how changes in climate affect human, wildlife and plant communities; and to find more exact ways of calculating the risks of global warming.

The administration also will ask Congress for a new \$103 million, two-year initiative to speed up "high priority" research on carbon pollution, aerosols and oceans and determine the best ways to compile and disseminate information about them.

An earlier version of the plan was criticized by a panel of top climate experts at the National Academy of Sciences, who said it didn't set hard priorities and lacked a clear, guiding vision and a specific timetable of goals.

42. CO2 Emissions Likely to Rise Without Mandatory Cap, Pew Report

Says

Unless the United States imposes a mandatory cap, carbon dioxide emissions are likely to rise even if the nation develops more energy-efficient technology and promotes hydrogen as an energy source, according to a report by the Pew Center on Global Climate Change. The report, *U.S. Energy Scenarios for the 21st Century*, describes divergent paths for U.S. energy supply and use from 2000 through 2035, and the potential effects of climate policy on various scenarios. The nonprofit Pew Center aims to encourage the reduction of greenhouse gas emissions.

"This report suggests that technology research and development efforts coupled with voluntary measures cannot reduce greenhouse gas emissions, and it highlights the need for a mandatory climate change policy to address carbon emissions--regardless of how the future unfolds," Eileen Claussen, Pew Center president, said in a prepared statement.

The scenarios analyzed in the report reflect a decline in carbon intensity--the ratio of carbon emissions to economic output. However, emissions are still expected to rise in 2035 by 15 percent to a high of 50 percent over the 2000 level of 1,560 million metric tons of carbon depending on conditions, the report said.

- In one scenario, which projects a 50 percent rise in emissions, abundant supplies of oil and gas would remain available to consumers at low prices. Energy consumption would rise considerably and there would be few incentives to improve energy efficiency.
- In another projection that considers economic growth and

- increased energy consumption, the successful commercialization of technologies that improve energy efficiency and produce lower carbon emissions would result in a smaller increase by 2035 of 15 percent.
- In a third scenario cited by the report, high energy prices, uncertainty about energy supplies, and concerns about security could slow economic growth, until the country finally aggressively develops a program to accelerate the commercialization of hydrogen and fuel cells. This would result in a rise in carbon dioxide emissions of 20 percent above the year 2000 level by 2035, according to the report.

The report said some conditions, such as low fossil fuel prices, make it more difficult to restrain carbon dioxide emissions. In contrast, actions such as early and sustained investment in emerging energy technologies encourage both domestic economic development and carbon emissions reductions.

For example, it said, imposing an emissions limit would force faster reductions in oil demand, especially in the transportation sector, leading to more consumer use of hybrid gasoline-electric and diesel-electric vehicles. In addition, it said, policies to cap carbon dioxide could spur large-scale commercialization of renewable energy technologies.

A portfolio of market-oriented policies and standards can lead to substantial reductions in carbon dioxide emissions by 2035, without major negative effects on the U.S. economy, the study concludes. However, it said, implementation of such policies could have substantial costs for the economy's

energy sectors.

43. Oregon Moves to Counter Bush's Big SUV Tax Break

In a backlash against sports utility vehicles, Oregon is seeking to pass a law that would make buyers of big SUVs pay more in local taxes if they claim them as a business expense in their federal tax returns. At stake is a federal tax loophole that lets small business owners reduce their taxable income by as much as \$75,000, a limit that was recently raised from \$25,000 under the tax cut legislation President Bush signed into law recently.

Oregon legislators, who are grappling with a \$2 billion budget shortfall, said the federal SUV tax break is costing the state valuable tax income worth some \$750,000 a year.

Under the proposed legislation, which is making its way through Oregon's state Senate, businesses would be required to report triple the amount of their federal tax write-offs as income when they file their local tax returns.

The state law, if passed, would take effect from 2004 and apply only to larger SUVs rated over 6,000 pounds.

44. EPA Says Won't Regulate CO2 Emissions from Autos

The Bush administration has denied a petition by three environmental groups to declare carbon dioxide spewed by automobiles as a pollutant, saying it has no authority over emissions linked to global warming. The Environmental Protection Agency said Congress did not give it the power to declare carbon dioxide from autos as a pollutant under the Clean Air Act. The heat-trapping gases have been linked to rising Earth

temperatures by many scientists.

"Congress must provide us with clear legal authority before we can take regulatory action to address a fundamental issue such as climate change," EPA Assistant Administrator Jeff Holmstead said in a statement.

The statement overturned a determination by the Clinton-era EPA that the agency has the authority to regulate carbon dioxide.

The International Center for Technology Assessment, the Sierra Club, and Greenpeace filed a lawsuit against EPA in December 2002 to force the agency to rule on the issue. Environmental groups called the EPA decision another attempt by the White House to undermine public health.

Passenger cars, pickup trucks and SUVs account for 20 percent of U.S. carbon dioxide emissions, with coal-burning power plants responsible for 40 percent.

U.S. industry applauded the administration's move. The U.S. Chamber of Commerce said it will prevent energy shortages and future rationing because of supply restrictions.

The administration's move puts greenhouse gas standards squarely on the shoulders of Congress. The Senate is set to consider this fall legislation proposed by Republican Sen. John McCain of Arizona and Democratic Sen. Joseph Lieberman to put a cap on U.S. carbon dioxide emissions. McCain has conceded that the measure is unlikely to pass.

The Bush administration is taking on climate change through voluntary industry measures meant to cut greenhouse gas intensity - or emissions per unit of economic growth - by 18

percent over a decade.

45. California Officials Praise Gas-To-Liquids Clean Diesel Formulas

California air and energy officials praised the potential for gas-to-liquids (GTL) and other alternative clean diesel fuel processes to make a significant future contribution to the state's diesel supply while reducing emissions and dependence on petroleum-based fuels. However, environmental groups continued to raise concerns that some of those formulas may increase greenhouse gas (GHG) emissions if regulators are not careful.

At a California Air Resources Board (CARB) symposium this week on alternative diesel fuels, a variety of companies updated regulators on the status of several different clean-diesel formulas, including GTL, biodiesel, water emulsified diesel, and ethanol-diesel. GTL, also referred to as Fischer-Tropsch -- which can be used to produce synthetic diesel fuel from natural gas and coal -- appears to be the most advanced option gaining the most investment activity by large and small companies, officials said. Ethanol-diesel received the most negative comments, especially by automakers, who say the fuel formula is too prone to explosions and fires. Biodiesel received many compliments, but its cost was seen as a potential drawback.

Jim Boyd, a commissioner with the California Energy Commission, said at the symposium Aug. 20 that a proposal by Rentech Inc. to use the Fischer-Tropsch process to make clean diesel fuel from coal is "extremely intriguing" and deserves to be considered for potential government funding. Denver-based Rentech proposes to help supply California with diesel fuel by making a synthetic clean formula from coal mined

in Wyoming, according to Dennis Yakobson, Rentech president and CEO. Yakobson said at the symposium that the coal-based diesel is much less expensive than natural gas-derived GTL diesel fuel and that it uses an abundant, domestic energy supply.

The major petroleum companies, including Shell and ConocoPhillips, are pursuing mostly natural gas-based GTL diesel operations by targeting "stranded gas" locations around the world and shipping the clean diesel to the U.S., Japan and Europe, according to representatives of the companies that spoke at the symposium. Roger Davies, a marketing and fuels manager with Shell International Petroleum Co. Ltd, said at the symposium that he believes there will be 10 large GTL plants operating in the world by 2020. These plants could collectively produce about the equivalent of California's diesel fuel demand by that time, he said. GTL is the most cost-effective diesel fuel alternative to reduce criteria pollutants and is backed by engine makers to enable them to build new, cleaner combustion engines, Davies said.

Boyd said that the coal Fischer-Tropsch option is attractive because natural gas is in limited supply and is expected to become scarcer over the next decade. While he said he is "cognizant" of the potential negative environmental impacts of coal mining, the state's economy must also be considered heavily by policymakers and regulators.

Alan Lloyd, CARB chairman, said that 10 years ago, when he was the chief scientist with the South Coast air district, he did not believe "clean diesel" could be achieved. But now he is impressed by the "tremendous" advancement in clean diesel fuel technology and after-treatment devices that make diesel an attractive option for the future. CARB is "trying to move as quickly as it can" to

certify clean diesel formulas that meet the state's emission standards, he said.

But two environmentalists on one of the symposium panels said that natural gas and renewable fuels still must be considered more attractive to government agencies to make very clean diesel fuel formulas. "Caution" and regulatory "criteria" must accompany any moves by CARB and other regulatory agencies to fully back substantive market penetration of the various clean diesel fuel options discussed at the symposium, said John White, a lobbyist for the Sierra Club and chief of a renewable technologies organization. White said there are concerns that GTL processes and fuel can produce more global warming emissions than other alternative fuels. Not enough testing has been conducted on the variety of alternative diesel fuels that are being developed to assure regulators that their benefits will outweigh their drawbacks, he said.

Patricia Monahan, a senior analyst for the Union of Concerned Scientists, said that tests have shown Fischer-Tropsch fuel will likely slightly elevate global warming emissions. She said that there is "not sufficient data to warrant" the current optimism for GTL and Fischer-Tropsch fuels.

The emission benefits of alternative clean-diesel fuels are also heavily dependent upon particulate filters, nitrogen oxides absorbers and other after-treatment devices, which cannot all be affixed to the variety of engines currently operating on the road, noted Chung Liu, a deputy executive officer with the South Coast air district.

46. Court Backs California in Oxy Fuel Debate

The U.S. Environmental Protection

Agency was wrong in denying California an exemption to federal regulations on the content of its gasoline, a federal appeals court has ruled. The Clean Air Act requires high-smog areas to use cleaner gasoline with at least two percent oxygen. Two years ago, the EPA rejected a request from California Gov. Gray Davis to waive that rule on grounds the ethanol additive would hurt the air pollution effort in California. Now, the 9th Circuit Court of Appeals said the EPA had abused its discretion in not granting that waiver.

"The EPA denied the waiver on the ground that California had not clearly demonstrated that a waiver would have a beneficial effect on ozone pollution, and ruled that it was unnecessary to consider the effect a waiver would have on particulate matter pollution," a three-judge panel ruled.

"The EPA abused its discretion in refusing to consider and weigh the effect of the proposed waiver on particulate matter pollution along with its effect on ozone levels."

California, often a vanguard in nationwide environmental regulations, was the first state to start banning MTBE, or methyl tertiary butyl ether, one of the key ingredients used to add oxygen to gasoline. A dozen other states, including New York, Connecticut and Maine have since decided to phase out MTBE, which has been blamed for polluting ground water.

The second major ingredient used to reach the two-percent oxygen level required under the Clean Air Act is grain-based ethanol. But California's Air Resources Board has found that using only ethanol to reach that threshold could interfere with maintaining ozone level requirements.

"The federal court decision is absolutely

correct and a clear win for motorists," Davis said in a statement. "It is my hope that the EPA will take a hard look at this court decision, realize they were wrong and give California what it needs: the ability to make gasoline with or without oxygenates as conditions warrant."

In a June ruling, the 9th Circuit upheld California's ban on MTBE and rejected arguments the prohibition overstepped the boundaries set by the federal Clean Air Act.

The Davis v. EPA ruling overturned the EPA's earlier dismissal of California's request for an exemption and asked the federal agency to reconsider the matter with full consideration of the impact on air quality and the ozone.

Judge Diarmuid O'Scannlain issued a partial dissent to the ruling, saying the court was wrong to second guess the EPA in this instance.

California Sen. Dianne Feinstein (D) also weighed in and urged the Bush administration to reconsider its decision.

"In light of the decision issued by the United States Court of Appeals for the Ninth Circuit on Thursday July 17, 2003 which stated that 'the EPA abused its discretion in refusing to consider and weigh the effects of the proposed waiver on particulate matter pollution along with its effect on ozone levels,' I am writing to strongly urge the Environmental Protection Agency (EPA) to immediately review California's request for a waiver of the federal oxygenate requirement and grant the state's request in an expeditious manner," Feinstein wrote in a July 21 letter to acting EPA Administrator Marianne Horinko.

Feinstein, an outspoken opponent of mandatory renewable fuels use, fears that continuing to subject California to

the oxygenate requirement will force much of the state's drivers to fill up their tanks with ethanol-blended gasoline since MTBE -- California's most widely used oxygenate -- will be banned in 2004 because of concerns it is prone to pollute groundwater. Feinstein, and many other California lawmakers, say the state can meet clean air requirements without the use of an oxygenate. Regardless, most refiners in the state have begun to blend ethanol in order to continue to meet federal standards.

Since corn, ethanol's most well-known source, is not widely grown in California and other coastal states, ethanol will have to be piped, trucked and shipped into the state, raising concerns of supply shortages and price spikes. Furthermore, since ethanol must be mixed at the point of distribution, it cannot be transported premixed from Midwest locations. It also takes less ethanol than MTBE to be blended in order to meet federal clean air standards, thus creating the need to use more gasoline in the state's transportation sector.

"The California Air Resources Board studied the impacts of the switch from MTBE to ethanol. [Its] studies revealed that ethanol would have detrimental economic and environmental impacts on the state," wrote Feinstein.

Both House and Senate versions of the energy bill include the mandated use of billions of gallons of ethanol in the next 10 years. Feinstein, as well as her colleagues from both coasts, have been adamantly opposed to these provisions.

47. US Court Denies Cheney Appeal on Energy Papers

Saying the White House is not immune from legal proceedings, a U.S. appeals

court has rejected Vice President Dick Cheney's request that it block a lawsuit seeking papers from his energy task force. By a ruling of 2-1, the appeals panel said the White House must comply with an order from U.S. District Court Judge Emmet Sullivan last October to produce the energy documents, or give a detailed explanation of what was withheld, and why. Cheney's Justice Department lawyers had argued that the White House should not be forced to consider invoking executive privilege for the documents, claiming the request for them from environmental and watchdog groups was "unnecessarily broad."

But the appeals court said it could not intervene in the lower court in mid-case, adding that for it to grant what the Bush administration was asking would have meant transforming executive privilege into "virtual immunity from suit."

Judge Sullivan could always narrow the request for documents, and review privately any documents for which privilege is claimed, the appeals court added.

Both judges who ruled against Cheney, David Tatel and Harry Edwards, were appointed by Democratic presidents -- Bill Clinton and Jimmy Carter, respectively. The dissenting judge, Raymond Randolph, was appointed by President Bush's father.

Justice Department lawyers late last year asked the appeals court to step into the lawsuit, brought by the private watchdog group Judicial Watch and environmental group Sierra Club. They are seeking documents from the energy task force Cheney directed in 2001.

Cheney's task force called for more oil and gas drilling and a revived nuclear power program. But environmentalists said they were largely shut out of the

decision-making process, while Cheney met industry chieftains including former Enron Corp. executive Ken Lay to discuss energy policy.

Cheney was chief executive of energy and construction company Halliburton Co. from 1995 to 2000.

The administration has handed over tens of thousands of pages of documents in the lawsuit from agencies such as the Energy Department and the Environmental Protection Agency, but the White House has not produced any of its task force papers.

The investigative arm of the U.S. Congress, the General Accounting Office, in February gave up a separate courtroom battle to obtain energy task force records.

48. Diesel Emissions Linked To Canadians' Cancer Risk

Canadians face high cancer and non-cancer health risks from exposure to diesel exhaust particles, with some children and those in highly exposed occupations especially vulnerable, warns a report released by the Sierra Club of Canada. The study, called The Public Health Impact of Diesel Particulate Matter, shows as many as 13,600 Canadians will develop cancer over their lifetimes because of exposure to diesel particulate matter (DPM). People in certain groups are particularly at risk, since they are exposed to higher levels of DPM, the study found. Diesel bus mechanics, people operating and driving trucks, heavy equipment and tractors, and those in other highly exposed occupations faced an average 33 to 47 percent greater risk of developing lung cancer because of their exposure to DPM at work. Also, children riding on diesel school buses are exposed to levels of DPM that, over a

lifetime, would lead to an excess cancer rate of up to one in 256.

Those living near high-volume highways and warehouse distribution operations also had elevated cancer risks.

The report found exposure to DPM causes an estimated 800 non-cancer premature deaths, tens of thousands of asthma attacks, and hundreds of bronchitis hospital admissions each year in Canada.

Health Canada conducted a workshop last year to examine research strategies for evaluating diesel exhaust's health effects and is currently analyzing the health impacts of alternative fuels and new formulations of existing fuels. They are also working with the New Brunswick Lung Association to look at ways to reduce children's exposure to diesel exhaust on school buses.

The report also recommends municipal governments prohibit diesel vehicles from idling when parked and that they restrict access by heavy-duty diesel vehicles into city centers.

49. EPA Touts Benefits of Bush Power Plant Emission Curbs

The Bush administration yesterday unveiled a rosier analysis of its proposal to cut power plant pollution in a move to soften criticism that a competing Senate plan offers greater health benefits. Environmental groups quickly dismissed the Environmental Protection Agency's new analysis as "accounting gimmickry" to boost the prospects of the White House plan, which some sources say is faltering under Republican in-fighting.

President Bush in 2002 released his "Clear Skies" proposal to cut utility power plants' emissions of three pollutants -- mercury, sulfur dioxide and

nitrogen oxides -- by 70 percent over 15 years. Congress must approve the plan before it can be enacted.

But Sen. Thomas Carper, a Delaware Democrat, has proposed a competing plan with stricter and immediate caps on the three pollutants. Carper's plan, co-sponsored by three senators including Rhode Island Republican Lincoln Chafee, adds a mandatory cap on carbon dioxide, which the White House adamantly opposes. The proposal seeks the middle ground between the White House plan and one by Sen. James Jeffords, a Vermont independent, which would mandate a deeper carbon dioxide cut.

The EPA released a new study of the benefits of the Bush plan, which boosted projected pollution reductions and health benefits. Assistant EPA Administrator Jeffrey Holmstead said the study was based on "the most sophisticated and comprehensive detailed modeling analysis ever done." But the plan's health benefits, projected to reach \$110 billion by 2020, are still eclipsed by the \$140 billion benefits offered by Carper's bill, according to an internal EPA analysis prepared last November and circulated by environmental groups. The internal study had estimated the Bush plan's health benefits at \$93 billion.

EPA said its improved figure includes benefits from planned state and federal measures and new assumptions about senior citizens, who face higher risk from air pollution.

Holmstead denied that the new analysis was meant to boost the Bush plan's prospects against competing Senate proposals.

50. Judge Rules Ohio Utility Broke Law With Pollution Violations

An Ohio utility violated federal law by not adding new pollution controls to an updated plant, a judge has ruled in the first trial over government accusations that Midwestern and Southern power plants are spewing dirty air. FirstEnergy Corp. should have determined that maintenance to one of its plants would increase pollution emissions, said U.S. District Judge Edmund Sargus.

The government charged that utilities have rebuilt 36 power plants in violation of the Clean Air Act and that pollution from the plants winds up in the Northeast, where it causes acid rain and health problems. The Justice Department says FirstEnergy was required to install the best available pollution control technology when work was done between 1984 and 1998 on the W.H. Sammis plant near Steubenville in eastern Ohio. Prosecutors argued that the additional controls were necessary because the improvements were major modifications that extended the plant's life and allowed it to generate more electricity.

The Akron-based company said that the work was routine maintenance that did not require additional smog controls or increase generating capacity or emissions. FirstEnergy says parts, such as tubes and heat transfers, were replaced in the plant's coal-burning equipment to minimize risks to workers. The government claims entire burning units were replaced.

Sargus, who conducted a three-week trial last February, will have a second trial in March to determine what the company should do to correct the violations.

The Justice Department continued with the Clinton-era lawsuits against FirstEnergy and other utilities even though the Bush administration has

been considering easing clean air rules to allow utilities to avoid having to install expensive new anti-pollution equipment when modernizing plants. (see below)

51. EPA Eases Pollution Rule at Power Plants

The Bush administration has revised clean air regulations to make it easier for power plants and refineries to repair and upgrade their facilities - a move environmental groups said will cause more air pollution. The Environmental Protection Agency issued a final rule that would let industrial facilities make some upgrades without installing equipment to fight air pollution.

Environmental and public health groups argue the new rules will allow old, coal-fired power plants and refineries to emit more air pollutants in some cases. Emissions from coal-fired plants can aggravate asthma, chronic bronchitis and pneumonia.

"EPA policy should be based on protecting public health, not bolstering industry profits," the American Lung Association said in a statement.

New York Attorney General Eliot Spitzer said he will sue the Bush administration to block the rule change and will ask other states to join his challenge.

The rule would let facilities replace equipment - even if the upgrade increases pollution - without installing pollution controls as long as the cost of the replacement is not above 20 percent of the cost of what the EPA broadly defines as a "process unit." Under the new rule, if a coal-fired plant replaced a boiler whose cost was less than 20 percent of the cost of replacing the entire process unit - the boiler, turbine, generator and other equipment that

turns coal into electricity - the company would not have to control any resulting pollution increases.

Green groups accused the Bush administration of deliberately releasing the final rule while Congress is on recess, and also to protect the administration's nominee to head EPA, Utah Governor Mike Leavitt, from having to decide whether to issue the controversial rule. EPA denies this.

Utilities have been fighting the EPA for years over what constitutes routine maintenance to power plants built before the mid-1970s. When Congress wrote the "new source review" provision of the Clean Air Act in 1977, it assumed most of the aging plants would be gradually replaced with new ones and exempted plants operating at the time from stricter pollution controls, unless they launch a major renovation or expansion.

52. Democrat President Hopefuls Push Environment in LA

Al Sharpton was witty, Howard Dean was on message, John Kerry was statesmanlike, Carol Moseley Braun sought higher ground and Joe Lieberman savaged the Bush administration as the Democratic presidential candidates showcased their environmental credentials. Making their first appearance as a road show in Los Angeles, a key battleground for both votes and money in the Democratic presidential primaries, the candidates won approving reviews from environmentalists in a state where that looms as a major issue.

Five of the Democrats' nine candidates held a debate and all said they believed car fuel economy standards should be nearly doubled to at least 40 miles per gallon. They identified the nation's oil

consumption habits as a issue threatening national security.

"I believe the sacrifices that are needed are sacrifices of bad habits but we do not need to sacrifice quality of life," Kerry, the junior Democratic senator from Massachusetts, said. He added he would remove the Bush administration's "obscene" tax incentives for buying such intimidating vehicles as \$60,000 Hummer H-2s and give the tax break to electric vehicle owners instead.

Sharpton, a black civil rights leader, drew laughs by suggesting ties between high Bush administration officials and oil companies had tainted President Bush's environmental policies. "It's so oily in Washington it's greasy," he said.

Lieberman, the Democrats' vice presidential candidate in 2000, used his time in the 90-minute debate to criticize the Bush administration's policies across the board. "I can't think of anything," he replied when asked which of Bush's environmental actions he supported. The senator from Connecticut added the nation's top environmental policy should be "to defeat George Bush."

Dean, the former Vermont governor and a physician, was peppered with questions that drew on his medical background. He succinctly spelled out plans for removing lead-based paint from homes and schools and spoke of his support for genetically modified crops.

Moseley Braun, a former Illinois senator and one of the few black women to serve in the U.S. Senate, said she was seeking "to rebuild the country both physically and spiritually" and bring it back to its Democratic roots.

53. Clinton-Era Officials Highlight Environment In Targeting Swing

Voters

Former Clinton administration officials have launched a campaign to elevate the role of environmental issues in next year's election as a way to appeal to left-leaning voters who may defect to the Green Party, while attempting to broaden support with moderate, independent voters. The nascent strategy will target races in key states by promoting the environmental qualifications of Democratic candidates while attacking the record of the Bush administration and Republican candidates. These Clinton-era officials, including former EPA Administrator Carol Browner and Interior Secretary Bruce Babbitt, are hoping to reenergize interest in environmental concerns mainly in the general presidential campaign but also in a number of key congressional races. The group plans to challenge the widespread political assumption that the environment will not play a meaningful role in most races and the key will be to highlight the importance of environmental protection while promoting a centrist New Democrat approach that will appeal to independent voters.

Democratic Party officials have ranked environment as a second or third tier issue on the domestic agenda, behind the economy, health care and education, among others.

The new campaign, dubbed Environment2004, began holding informal organizational meetings a couple of months ago and has not yet drafted a definitive list of electoral races the group plans to target. The current focus is reportedly on fundraising.

According to the group's website, the initial strategy is to "target a multimillion-dollar campaign to a short list of critical states and media markets to provide a

margin of victory." Environment2004 will focus exclusively on general elections, and not at all on primaries, according to the website.

Starting in early fall 2003, the former Clinton officials and other group members plan to promote the economic benefits of "pro-environmental policies," and will "respond quickly to Bush anti-environmental actions." The organization plans to communicate with voters through media coverage, speeches, and other public events, and will conduct research to determine "critical clusters of environmental voters in carefully selected target states," the website says.

The Clinton-era officials have a preliminary list of what they believe are nine key swing states where the environment will play a factor in the presidential and congressional elections: Florida, Iowa, Minnesota, New Hampshire, New Mexico, Oregon, Pennsylvania, Washington and Wisconsin. "In a majority of these states there are significant numbers of voters for whom the environment can be a significant issue," the website says.

While most of the emphasis of the group will be on making distinctions between Democratic and Republican candidates, officials also hope to appeal to left-leaning, younger voters who may defect to the Green Party, as some did in 2000. One official with the Democratic Leadership Council, a centrist group that includes Democratic lawmakers at the state and federal levels, says one of the primary goals of Environment2004 is to "keep young voters within the ranks of the Democratic Party and not stray into the Green Party."

Some Democrats have blamed the Green Party's presidential candidate Ralph Nader with the defeat of Al Gore in the 2000 election, by siphoning

enough votes away from the Democratic candidate to allow George W. Bush to win the White House.

54. NASA Prototype Solar Plane Crashes Off Hawaii

An unmanned experimental NASA solar-powered plane crashed in the Pacific Ocean off the coast of the Hawaiian island of Kauai, the space agency said in a statement. The plane was destroyed but there were no reports of injuries or other damage, NASA said. The Helios, which was designed to monitor the upper reaches of the atmosphere and to stay aloft for months, crashed about 29 minutes after takeoff from the U.S. Navy's Pacific Missile Range Facility on Kauai.

The cause of the crash of the radio-controlled, lightweight plane was not immediately known. NASA said it would form a team to investigate with Navy officials.

The Helios, which has a wingspan of 427 feet (130 meters) and is driven by 14 propellers, had been flying under the guidance of ground-based mission controllers employed by its builder and operator AeroVironment, Inc. of Monrovia, California. The test flight was intended to test the endurance of the \$15-million aircraft ahead of a planned two-day endurance flight set for next month.

The Helios set an aviation record in August 2001 by soaring to 96,863 feet (29,520 meters) -- more than three times higher than the cruising altitude of commercial jetliners.

The Helios project has been seen as a potential alternative to space-orbiting satellites with a variety of possible applications, including imaging of the Earth's atmosphere and military

surveillance. The aircraft was designed to be able to remain in one spot over the Earth's surface for an extended period.

55. Industry Says Calls For Changes In Diesel Rule Off Table For Now

EPA officials have rebuffed a call from some trucking industry executives to extend compliance timelines in the 2007 rule limiting diesel emissions from onroad vehicles. However, industry may still call for changes to the rule if it is later apparent that technology will not be available in time to meet the existing deadlines. Most parties also emphasize that no associations have adopted a formal position advocating changes to the rule and say that truckers, refiners, engine manufacturers and other affected parties expect to comply with it as written.

The issue emerged during a conference held late in Phoenix by the American Trucking Associations (ATA), where several trucking industry executives proposed asking EPA to delay timelines in the rule for the new emissions standards to go into effect. These comments raised alarm among environmentalists and prompted state air officials to threaten to develop their own model rule to implement at the state level if EPA agrees to make changes.

The high-profile onroad rule would set new emission limits on particulate matter, nitrogen oxides and other pollutants beginning in 2007, as well as new ultra-low sulfur fuel requirements that would begin in 2006.

Some in the trucking industry remain concerned that new emissions control technology for engines will not be developed in time, or that even if it is developed it will make vehicles less

cost-effective and reduce fuel efficiency. They also expect that most trucking companies will use older trucks for several years after the deadline to avoid buying equipment that has to meet the new standards.

Meanwhile, state and local air officials are threatening to develop their own rules to curb highway diesel emissions if industry officials succeed in delaying the federal requirements.

Proponents of the standards cite as one reason for concern the fact that Bill Graves, ATA president, is a former governor of Kansas who could gain a favorable hearing from the Bush administration.

STAPPA/ALAPCO says any move to delay the standards would spark a state-by-state strategy to impose emissions requirements that mirror the EPA plan. States would replay a strategy that many states used to force separate, strict emissions standards and test procedures on heavy duty diesel vehicles during the 2005-2006 timeframe for the so-called "not to exceed limits." The strategy, which included development of a state model rule on the issue, broadened the impact of a regulation issued by California in 2000 establishing the tighter limits starting in 2005. The strategy means that over 40 percent of truck engines sold in the U.S. in 2005 will be subject to the requirements.

States utilized a provision of the Clean Air Act that allows California to adopt different requirements for mobile sources, and allows other states to essentially choose between EPA and California regulations.

California and 13 other states have implemented the strategy, creating a *de facto* national requirement before the EPA requirements begin.

56. Ontario Government Unveils Draft Rules On Tax Incentives for Electricity Generation

The Ontario government has proposed regulations to implement its November 2002 promise to provide substantial tax incentives for the development of electricity generation from clean, alternative, or renewable sources, Energy Minister John Baird said July 7. The proposed regulations, together with other measures in the provincial government's Energy Action Plan, are expected to lead to the construction of new electricity generation facilities based on natural gas, biomass, wind energy, solar energy, water power, and other alternative sources, Baird said in a statement.

"Ontario will benefit as even more generation is built by the private sector, and these tax measures will help ensure that happens," he said. "The costs of constructing clean, alternative, and renewable electricity generation are mostly up-front costs. Allowing companies to better handle the costs of constructing these generation facilities will lead to more generation."

The proposed regulations would provide an immediate, 100 percent corporate income tax write-off for any assets acquired after Nov. 25, 2002, and before Jan. 1, 2008, that are used to generate electricity from clean, alternative, or renewable energy sources, said a Ministry of Energy background document. They would also provide a sales tax rebate on building materials purchased between those dates that are incorporated into qualifying electricity generation facilities, and would provide a 10-year property tax holiday on eligible facilities, the background document said.

In addition to promoting the development of new generation facilities, the proposed regulations would provide a tax break on the purchase of assets and building materials between June 1, 2003, and Jan. 1, 2008, for nuclear generating facilities that are not scheduled to return to service in 2003, it said. That would assist private sector utilities in refurbishing and bringing online additional reactors that are currently idle, it said.

The government also promised in November 2002 a capital tax exemption for assets used to generate electricity from renewable sources and a corporate income tax holiday on revenues derived from the sale of new electricity supplied from alternative sources, and had promised to raise the existing threshold for the environmental approvals exemption for clean electricity generation to 100 megawatts.

57. Air Resources Board Pushing Software Upgrades for Diesel Trucks

ARB staff is proposing a regulation to require heavy-duty diesel engine software upgrade for applicable model year 1993 to 1998 engines. This software upgrade, if adopted, would reduce the excess pollution from 1993 to 1998 trucks and buses.

In the 1990's, engine manufacturers utilized computer-based strategies on engines in trucks, school buses, urban buses, and motor homes that allowed the engines to comply with emission limits under certification conditions but also allowed increased oxides of nitrogen (NOx) emissions during highway driving. The United States Environmental Protection Agency (U.S. EPA) and ARB consider these strategies to be defeat devices that result in off-cycle emissions. In 1998,

the most diesel truck engine manufacturers signed consent decrees with the US EPA, the Department of Justice (DOJ), and the ARB. The Consent Decrees stipulate penalties, additional certification requirements, the Low NOx Rebuild Program, an October 2002 deadline for meeting 2004 model year standards, in-use testing, and offset and incentive programs.

The Low NOx Rebuild Program contained in the Consent Decrees is simply engine software upgrades designed to reduce the increased NOx emissions. The Consent Decrees require low NOx rebuild kits to be installed at the time of normal engine rebuild (typically around 200,000 to 300,000 miles of service.) However, less than four percent of the applicable engines have low NOx rebuild kits installed instead of the nearly one hundred percent that was expected. Therefore, excess NOx emissions continue to be emitted. In order to reduce NOx emissions, staff is developing a proposal that would require the Low NOx engine software upgrade on all applicable model year 1993 to 1998 engines.

58. Air Board Requires Cleaner Diesel Fuel

The California Air Resources Board (ARB) passed new fuel standards that will enable diesel engines to meet dramatically lower emission levels. The new sulfur standard will be phased in starting in mid-2006. It aligns California diesel fuel sulfur standards with federal diesel sulfur standards, which require a sulfur limit of 15 parts-per-million (PPM) starting in 2006. California's rule will apply to fuel sold for both on-road and off-road vehicles, while the federal standards will apply to diesel fuel for on-road vehicles only.

Reducing diesel fuel sulfur content from the current statewide average of 140 PPM to less than 15 PPM (refiners usually make the fuel with somewhat less sulfur than the standard) will reduce sulfur oxide emissions 6.4 tons-per-day (TPD) and particulate matter (PM) emissions by about four percent or .6 TPD.

In addition, the lower sulfur content can help reduce PM by allowing installation of PM pollution control devices on existing diesel engines and by enabling the use of advanced technology to cut pollution from the next generation of diesel engines since high sulfur levels blunt the effectiveness of these devices,

California continues to maintain the existing specification to limit aromatic hydrocarbons of California diesel fuel. These requirements have been in place since 1993 and continue to reduce California NOx emissions by 110 tons per day.

The approved diesel fuel amendments also include the following additional items:

- Provide an optional set of specifications that refiners may choose to use in complying with California's 10% aromatic hydrocarbon limit for diesel fuel.
- Reduce the sulfur content of diesel certification fuel to 7-15 ppm S from the current 100-500 ppm S range.
- Adopt a two-phase plan to institute a diesel fuel lubricity standard. The first lubricity standard (an ASTM high frequency reciprocating rig test) will be phased-in starting in 2004 followed by a second standard in 2006 (currently undefined) aimed at protecting advanced technology fuel systems.

- Revisions to the requirements for certifying alternative diesel formulations (e.g., oxygenated diesel, Fischer-Tropsch diesel, biodiesel), including proof of emission equivalency to in-use diesel fuel.

Adoption of these new diesel fuel regulations by ARB overrides earlier regulations adopted by the South Coast Air Quality Management District (SCAQMD) that required the implementation of 15 ppm S max. on-road diesel fuel in the South Coast air basin starting in 2005. SCAQMD's rule implementing the use of ultra-low sulfur diesel fuel in stationary engines beginning in 2004 remains in place.

ARB staff estimates that the new rules will add approximately one cent to three cents to the cost of producing a gallon of diesel fuel in California. Since a similar requirement is being instituted nationwide, the Board's action is not expected to cause an increase in the cost of diesel in California relative to other states. The national rules are expected to add four to five cents to a gallon of diesel fuel. California's costs are lower because several of the state's refineries already have much of the equipment needed to meet the new standards.

At the hearing, the Board instructed staff to report back before the end of 2003 on the feasibility of extending the use of ultra-low sulfur diesel fuel for locomotive and marine diesel engines in California.

59. ARB Staff Revises Proposals for PM Reductions from Refuse Haulers But Board Fails To Act Again

In a staff report issued on June 6, 2003, ARB staff detailed their latest proposal for reducing PM emissions from refuse hauler vehicles in California. This

proposal was to be presented to the ARB Board for approval at the July 24-25, 2003 Board hearing in Sacramento. The Board approved rules covering PM reductions from urban bus fleets in October 2002.

In the proposed regulations, refuse hauler fleet owners must choose between three different Best Available Control Technology (BACT) options:

- Replace or repower with a diesel engine certified at 0.01 g/bhp-hr PM,
- Replace or repower with an alternative fuel engine certified to the lowest optional PM standard, or
- Install the highest level verified diesel emission control strategy available for that engine.

The proposed implementation schedule for the refuse hauler fleets is as follows:

1988-2002 model year engines (Group 1)

- 10% by 12/31/2004
- 25% by 12/31/2005
- 50% by 12/31/2006
- 100% by 12/31/2007

1960-1987 model year engines (Group 2)

- 25% by 12/31/2007
- 50% by 12/31/2008
- 75% by 12/31/2009
- 100% by 12/31/2010

2003-2006 model year engines (Group 3)

- 50% by 12/31/2009
- 100% by 12/31/2010

Level 1 emission control technologies (25-49% PM reduction) cannot be used on Group 2 engines (1960-1987 model years) by fleet owners with 15 or more vehicles in their fleet. Smaller fleet owners (<15 vehicles) may select Level 1 emission technologies, if available, but

the use of such technologies is limited to ten years. This ten year Level 1 time limit also applies to Group 1 engines. The time limit on Level 1 technologies, if available, is reduced to 5 years for Group 3 engines.

The proposal includes early implementation incentives for Group 1 and 2 engines. Achieving 50% compliance by 12/31/2004 on Group 1 engines allows fleet owners to delay 100% compliance until 12/31/2009 (a two-year delay). Similarly, 50% compliance on Group 2 engines by 12/31/2006 delays the 100% compliance date by two years to 12/31/2012.

The use of ultra-low sulfur diesel fuel (15 ppm S max.) will not be mandated prior to the 2006 federal implementation date unless its use is required as a condition of a given verified emission control system.

Fleet owners with 3 or fewer collection vehicles in their active fleet may delay implementation of any Group 1 engine to 12/31/2007 or any Group 2 engine to 12/31/2010.

ARB staff estimated that this rulemaking would reduce diesel PM emissions between 1.03 and 1.15 tons/day in 2010, and between 0.75 and 0.91 tons/day PM in 2020. This measure would also provide significant reductions in HC (3.5 tons/day in 2010), CO (9 tons/day in 2010), and NOx (16 tons/day in 2010) emissions. Average estimated cost-effectiveness of the proposed PM emission reductions during the 2004-2010 timeframe is \$28/lb (PM-only basis).

However, for the third time in more than a year, the Board delayed consideration of the proposal. The regulation is now proposed for adoption Sept. 25. Waste haulers and engine manufacturers have

indicated they may sue CARB if it adopts the regulation, alleging the measure violates federal Clean Air Act preemption provisions.

60. Poll Indicates Strong Environmental Support in California

The Public Policy Institute of California has released a study showing that 58 percent of Californians consider air pollution a "serious health threat," and 68 percent believe there has been little to no progress in dealing with the problem over the last 20 years. But while 47 percent of the state's residents cited vehicle emissions as the top contributor to California's notorious yellow-brown smog, only 44 percent said they were "very" or "somewhat" concerned that their own cars polluted too much.

The survey also found that Californians were more supportive of environmental protection than the rest of the nation. Asked whether the environment or economic growth should be given priority, 65 percent of state residents chose the environment compared to 47 percent in a recent national poll.

The telephone survey of 2,002 adults by the nonprofit and nonpartisan research institute was conducted from June 4 to June 15.

Responses to specific questions included:

#23. Do you think it is necessary to take steps to counter the effects of global warming right away, or isn't it necessary to take steps yet?
73% right away
20 not necessary yet
7 don't know

#25. Should the federal government set new industrial standards to limit greenhouse gases thought to cause global warming? (if

yes: Should the government rely on industries to voluntarily comply with these new standards, or should industries be legally required to meet these standards?)

66% yes, legally required

9 yes, voluntary compliance

16 no

9 don't know

#28. What about the state law that requires all automakers to further reduce the emissions of greenhouse gases from new cars in California by 2009? Do you support or oppose this law?

80% support

14 oppose

6 don't know

#32. How about requiring automakers to significantly improve the fuel efficiency of cars sold in this country? (if favor: Would this be true even if it increased the cost of buying a new car?)

75% favor, even if increased cost

12 favor, but not if increased cost

10 oppose

3 don't know

#34. How about giving tax breaks to encourage people to buy cars powered by hybrid gas and electric engines?

81% favor

15 oppose

4 don't know

#35. What about the state law that requires doubling the use of renewable energy—such as wind and solar power—over the next ten years from 10 percent of all California power today to 20 percent? Do you support or oppose this law?

81% support

12 oppose

7 don't know

61. ARB and CEC Take Steps To Reduce California's Petroleum Dependence

The final version of the Joint Agency Draft Report required by AB 2076, *Reducing California's Petroleum Dependence*, was released for public review and final consideration at the

Energy Commission's regularly scheduled business meeting on July 23, and the Air Resources Board's July 24-25 Board meeting. Public comments on the Final Draft Report were considered at both the Commission and Board hearings and following comments it was approved by both Agencies.

Most significantly, CEC and ARB adopted a statewide goal to reduce on-road gasoline and diesel demand to 15% below the 2003 demand level by 2020. The report includes a "best case" strategy for meeting these recommended goals that includes the doubling of light-duty vehicle fuel economy, the use of natural gas-derived Fischer-Tropsch fuel as a 33 % blending agent with conventional diesel fuel, and the introduction of light-duty fuel cell vehicles beginning in 2012 (10% of new vehicle sales assumed to be reached by 2020).

62. UCS and NESCAUM Issue Reports Detailing Health and Environmental Impacts of Nonroad Diesel Equipment

The Union of Concerned Scientists (UCS) and the Northeast States for Coordinated Air Use Management (NESCAUM) issued reports detailing the health and environmental impacts of nonroad diesel equipment in support of EPA's recent nonroad proposal.

The UCS report, entitled *Cleaning Up Diesel Pollution: Emissions from Off-Highway Engines by State*, details the particulate and NOx emitted by nonroad diesel engines (including heavy equipment, marine vessels and locomotives) in 1999 on a state-by-state basis and for 20 of the largest metropolitan areas of the U.S. Total U.S. PM and NOx emissions of nonroad diesel engines in 1999 was 255,286 tons PM and 3.7 million tons of NOx,

representing 45% of all mobile source-generated PM emissions and 29% of all mobile source-generated NOx emissions. The UCS report states that these total U.S. nonroad emission levels are the equivalent of more than 17 million new transit buses with respect to PM and more than 10 million new transit buses with respect to NOx. The report states that cost-effective emission controls under development for on-road applications can be applied to nonroad diesel engines, especially for engines >75 hp, and that these emission controls will increase equipment costs from one to three percent, while reducing emissions by 90% or more. It recommends that the EPA set ultra-low sulfur limits on all nonroad diesel fuels including fuel used in marine engines and locomotives, harmonize nonroad equipment emission standards with on-road standards, develop appropriate standards for locomotives and marine engines, and develop an effective, enforceable inspection and maintenance program for all diesel engines.

NESCAUM issued an interim report entitled *Evaluating the Occupational and Environmental Impact of Nonroad Diesel Equipment in the Northeast* on their study to evaluate the occupational and environmental impacts of nonroad equipment in the Northeast. The interim findings were as follows:

1. In all locations, diesel equipment activity substantially increased fine particulate matter exposures for workers and nearby residents, in some cases by as much as 16 times.
2. Individual workers' estimated 24-hour exposures could exceed current air quality standards by nearly 2 to 3.5 times – substantially increasing workers' health risk.
3. The most potent portion of particulate matter (PM_{2.5}) –

diesel particulate matter – was estimated to exist at levels that pose risk of chronic inflammation and lung damage in exposed individuals.

4. As many as 200,000 workers may be exposed to these harmful concentration levels of nonroad equipment emissions in the Northeast region alone.
5. Measured concentrations of acetaldehyde, benzene, and formaldehyde around the tested nonroad equipment operations were as much as 140 times the federally established screening threshold for cancer risk.
6. Concentrations of metals such as iron, nickel and vanadium, are elevated in samples collected around nonroad equipment. These metals are known to cause inflammatory responses and damage in pulmonary cells.

63. Maine to Reduce GHG Emissions

Governor John Baldacci has signed legislation that would require the Maine Department of Environmental Protection (DEP) to develop a long-term plan to decrease Maine's total greenhouse gas (GHG) emissions. Emissions must be reduced to 1990 levels by 2010, 10 percent below 1990 levels by 2020, and 75-80 percent below 2003 levels by a date that needs to be set by the plan. The law also requires Maine to enter into carbon emission reduction agreements with a minimum of 50 nonprofit organizations and businesses by 2006. The legislation was supported by environmental and some business groups, but critics claim that the requirements are too stringent.

64. EPA Announces A Clean School Bus Grant Program

The EPA announced the availability of a \$5 million grant program to reduce school bus emissions, as a part of the EPA Clean School Bus USA initiative. Funded by Congress as part of this year's budget, EPA is offering up to 20 grants to help school districts across the country upgrade the school bus fleets, either by replacing older buses with new, cleaner ones or by retrofitting existing buses with emission control devices.

The grant program will fund demonstration projects on methods to reduce pollution from school buses through the use of EPA verified or certified emission control technologies. Grant applications will be accepted from schools and school districts, as well as from school transportation associations, other educational institutions, non-profit organizations, or state, local, or tribal governmental agencies.

EPA also announced Virginia Electric Power Company's (VEPCO) \$1 million commitment to retrofit school buses in the Fairfax County. The commitment from VEPCO is part of a recent settlement action with the EPA.

65. EPA's Report On The Environment Edited By White House

The U.S. EPA released a "Draft Report on the Environment" just before the departure of Governor Whitman that states that the quality of the environment is now better than 30 years ago, with air pollution having declined 25%. The report also illustrates that more must be done since more than 133 million Americans live in areas that at times have unhealthy air.

Before being published, the report was

edited by the White House in its section on climate change. The edits included removing references to studies that concluded that human activities could be linked to global warming. The EPA decided to delete the entire discussion on global warming, leaving only one paragraph in the published version of the report, to avoid criticism that they were selectively filtering science to suit the policy of Bush administration. The news about the edits was leaked by a former EPA official who passed drafts of the climate section, with changes sought by the White House, to the New York Times.

66. Environment Canada Designates Smog Components as Toxic Substances

The designation of key components that contribute to smog formation as toxic substances under the Canadian Environmental Protection Act permits the federal government to develop detailed plans to limit their emissions, Environment Canada said July 2. The order added ozone, its precursors, and precursors of respirable particulate matter of a diameter less than or equal to 10 microns (PM-10) to the List of Toxic Substances under the act. The designation is based on available science showing the substances pose a threat to the environment, biological diversity, and human life or health, the department said in a regulatory impact analysis statement published with the finalized order in the July 2, 2003, issue of the *Canada Gazette*, Part II. Specific substances designated as toxic are gaseous ammonia, ozone, sulfur dioxide, nitric oxide, nitrogen dioxide, and volatile organic compounds.

Nearly all ground-level ozone and up to two-thirds of particulate matter are formed in the atmosphere from substances that are known to be smog

precursors, Environment Minister David Anderson said in a July 4 statement commenting on publication of the final order. "To effectively reduce the levels of PM10 and ground-level ozone in the air we breathe, we must reduce emissions of those precursor substances," he said.

Thirty-two submissions were received from interested parties during the public comment phase after pre-publication of the order in the July 27, 2002, issue of the *Canada Gazette*, Part I. Notices of Objection were filed by the Alberta government, Canadian Chemical Producer's Association, Canadian Consumer Specialty Products Association, and the Cement Association of Canada, the impact analysis statement said.

"The Notices of Objection did not raise any information, either scientific or otherwise, that would contribute to a better understanding of, or refute, the nature of the health risks posed by the above substances," it said. "The addition of these six substances to the List of Toxic Substances is justified, considering that there have been no additional data or information presented to contradict the conclusions from the available scientific reports."

67. Auto Workers Urge Canada to Adopt Tougher Fuel Efficiency Standards

The federal government should move to adopt mandatory fuel efficiency improvements of 25 percent by 2010 to help meet Canada's commitments under the Kyoto Protocol while protecting jobs in the Canadian automobile manufacturing industry, Buzz Hargrove, president of the Canadian Auto Workers union, said July 8. A "green car" industrial strategy for Canada would help significantly reduce pollution,

particularly greenhouse gas emissions, Hargrove said in a joint statement with New Democratic Party (NDP) leader Jack Layton and Greenpeace Executive Director Peter Tabuns. "Canada can be well-placed to make the cleaner cars that the automakers are going to need soon," he said.

Under the Kyoto Protocol, Canada committed to reduce greenhouse gas emissions 6 percent by 2012, based on 1990 levels.

The strategy, officially released by the NDP opposition in the Canadian Parliament, also calls for: increased cooperation with the California Air Resources Board to develop standards and regulations that meet the principles of existing California legislation and new Canadian fuel efficiency laws; discussions with legislators in the United States and Mexico on a continent-wide approach to vehicle fuel efficiency that approaches the 23 percent to 25 percent improvements being implemented in Japan and Europe; and organization with other auto manufacturing countries of a clean car summit to promote global cooperation on reducing pollution through fuel efficiency.

In addition to mandatory fuel efficiency standards, the strategy also calls on the federal government to take steps to encourage consumers to purchase new, cleaner vehicles through various means, including:

- A significant sales tax rebate on alternative-fuel vehicles and an equivalent incentive for tax-exempt public agencies;
- Enactment of a market share schedule to require automakers to increase their production of alternative fuel vehicles, with a goal of at least 5 percent of total Canadian unit sales by 2010;

- Adoption of targets to ensure that by 2010, all light vehicles purchased by the federal government use alternative fuels;
- Creation of a joint alternative fuel vehicle procurement purchasing agency with provincial and territorial governments; and
- Development of an integrated system to enhance access to alternative fuels.

68. Urban Forum Held in San Diego

Environmental professionals from around the world convened in San Diego, CA, for the 5th International Urban Air Quality Forum (Forum) on June 25–27, 2003. Over seventy individuals from seventeen countries participated in the three-day Forum.

A&WMA's Forum has earned a growing reputation for addressing timely environmental topics in a lively, cooperative spirit, and developing pragmatic strategies for dealing with complex issues. It is held each year in conjunction with the A&WMA Annual Conference & Exhibition. The objective of the event is to address critical urban air quality issues and formulate policy recommendations to be adopted by the group and implemented locally when Forum delegates return home.

The Forum was held in cooperation with the U.S. Environmental Protection Agency (EPA) and sponsored by Batelle. Building on the theme of A&WMA's Annual Conference, "Energy, Economic, and Global Challenges: Environment in the Balance," four critical air quality topics were identified as follows: 1) achieving integrated air quality management, 2) implementing Johannesburg commitments, 3) incorporating appropriate technology for air quality solutions, and 4) addressing global challenges of clean production

technologies. These four topics were addressed in a series of plenary panel presentations. These presentations were followed by lengthy question-and-answer sessions. Next, the Forum participants broke into smaller groups to further explore the topics during the roundtable discussions. The number of roundtables was adjusted to better reflect the participants' interest and background. Representatives from each roundtable presented a series of recommendations on their respective topics to the entire group during the final plenary session.

ASIA-PACIFIC

69. Japan Approves Local Plans To Reduce Nitrogen Oxides, Particulates

The Japanese government has endorsed nitrogen oxide and particulate matter reduction programs of seven large municipalities neighboring Tokyo and Osaka that had called for use of low-emission vehicles and curbing traffic. Saitama, Chiba, and Kanagawa prefectures, which surround Tokyo, Aichi, where the city of Nagoya is located, and Mie and Hyogo, which are neighbors of Osaka, as well as Osaka, had set draft targets that call for keeping NO_x and PM levels below the government's tolerance targets set for the regions by fiscal year 2010.

Tokyo also is subject to the government's tolerance targets.

The government's endorsement of programs by the Ministry of the Environment and other ministries came at a July 25 meeting of the interministerial Pollution Policy Council. The endorsement empowers the prefectures to make the draft targets

definitive and give the municipalities legal power under the Automobile NOx/PM Law to require the introduction of low-emission vehicles, control traffic, and take other measures.

The law was enacted in June 2001 as the amendment to the Automobile NOx Law of 1992. It empowers the state and state-designated authorities to restrict the types of vehicles that can be used in major urban areas as a means to reduce NOx and PM, conduct traffic mode controls, improve efficiency of goods distribution, and encourage the use of bicycles and other eco-friendly transport means.

Of the 199 NOx and PM observation stations managed by the MOE in 2000, only 133 have kept NOx and PM levels below government targets.

In line with the law, the seven municipalities will regulate the use of diesel vehicles and require that diesel engine-powered vehicles use diesel particulate filters (DPFs). Even though Tokyo failed to submit its draft to the meeting before July 25, it is scheduled to require that all diesel trucks and buses use DPFs from October.

The law also urges the state to take measures to increase the number of low-emission vehicles (vehicles that are given three stars on environmental performance by the Ministry of Land, Infrastructure and Transport)--including gasoline-electric hybrid, compressed natural gas, electric, methanol, and fuel cell-powered vehicles--to 10 million, out of Japan's total number of 75 million automobiles, by 2010.

The 2001 law covers 276 municipalities including Tokyo and seven other large municipalities and surrounding prefectures. It basically calls for reducing NOx levels in the atmosphere in the municipalities in fiscal 2010 by 54

percent compared with 1997 levels and PM by 84 percent.

70. Revised Law Should Impact On Development in South Korea

A revised environmental law marks a further shift of priority from bulldozer-style development to careful environmental planning in South Korea by giving the nation's environmental regulators broad power to halt a project on environmental grounds in any stage of progress, the Ministry of Environment said July 1.

The amendment to the Basic Environmental Policy Act (Law No. 6846), enacted last November and put into force July 1, has increased the supervisory role of the ministry for development projects launched by the central and local governments. A key provision of the amendment bars central and local governments from breaking ground on a project without clearing the ministry's environmental review process. The ministry review is basically a general look at how the proposed project falls in line with South Korean environmental policy and sustainable development goals. The ministry may order a halt to any project already in progress if its requests for environmental protection measures are not met by planners, contractors, and developers.

The pre-project environmental review program has been in place since August 2000 under a December 1999 revision of the environmental policy law, but it lacked the regulatory teeth needed to force compliance, according to the ministry. Under the revised law, city, county, and district administrations are mandated to devise and follow environmental plans to align their development agenda with environmental causes and prevent pollution.

The amendment also contains a requirement for the central and local governments to conduct risk assessment studies on certain industrial technologies potentially harmful to human health and environment. It also requires them to prepare contingency plans to control outbreaks of environmentally induced diseases.

In addition, the amended law provides a broader definition of environmental pollution to include blocked solar access and limited daylight availability, one of the most common complaints of urban dwellers living in the shadow of tall buildings.

71. New Rule To End Collaboration By Top China Oil Companies

A new regulation from the Chinese government aimed at ending price manipulation by domestic companies should halt collaboration between China's top two oil companies, China-based industry analysts said. A recent decree by China's National Reform & Development Commission says major market participants must stop collaboration aimed at manipulating prices because such behavior hurts the interests of other market players and consumers.

Although the decree isn't directly targeted at China Petroleum & Chemical Corp. (SNP), or Sinopec Corp., and PetroChina Co. (PTR), China's two largest oil companies, it provides a regulatory advisory against major market players collaborating to control domestic oil prices, the industry analysts told Dow Jones Newswires.

Sinopec and PetroChina sometimes make joint decisions to push up gasoline and diesel prices when weak demand

hurts their sales, even though they compete for market share. Also, both companies ask their sales units to raise oil product prices when international prices fall, to protect their sales revenue.

In China, oil products prices are based on benchmarks in Singapore, Rotterdam and New York. The government adjusts domestic diesel and gasoline prices when benchmarks in the three locations move up or down by 8%. Wholesale companies can then adjust their prices by 8% above or below the government-set prices.

In its latest price adjustment, the government raised gasoline prices 3% to 3,010 Yuan a metric ton late last month, while keeping the price of diesel unchanged at Y 2,640/ton.

Sinopec and PetroChina supply 90% of China's oil products.

72. Hong Kong Retrofits Proceeding Smoothly

About 8,000 pre-Euro over 4 tons diesel vehicles have been fitted with DOCs to date. There have been very few complaints (less than 50 cases) and they have been resolved. In use testing will start next month.

73. Oil Industry, Bank Group Meet To Clean Up Asia's Air

Delegates from the oil industry and a World Bank and Asian Development Bank funded group met for the first time to discuss measures to clean up heavily polluted Asian cities, where air pollution kills over 500,000 people every year. The Clean Air Initiative - a World Bank and Asian Development Bank-linked organization - held a daylong meeting in Singapore with representatives from a dozen regional and global oil companies

to consider possible strategies to counter the problem.

Among companies attending the meeting were ExxonMobil, Royal Dutch Shell, British Petroleum and ChevronTexaco. In a statement, the oil companies said they were committed to helping reduce air pollution caused by the region's "rapid growth in mobility."

Key Asian cities face serious problems with air pollution which if left unresolved could cost the region billions of dollars annually in health costs and lost economic output, experts said Monday. Air quality in several Asian cities such as Jakarta and Manila does not meet standards set by the World Health Organization and two-thirds of the 800,000 people who die globally from air pollution every year are from the region, they said.

The CAI, a project launched in 2001 by the Asian Development Bank (ADB) and World Bank, held the one-day dialogue meeting with key players from the oil industry who have agreed to work with the Manila-based body to address the problem.

Air pollution in Asia has gotten worse in recent years due to increasing urbanization and a growing middle class which aspires to own vehicles to match their new social status.

74. GM Launches Japan's 1st Commercial Fuel-Cell Vehicle

General Motors and FedEx marked a first in Japan by delivering packages in a fuel-cell vehicle (FCV) - the first approved for commercial use in the country. As part of the Japanese government's initiative to explore the viability of FCVs, the world's largest automaker and the delivery firm will operate GM's HydroGen3 vehicles on

FedEx Express's regular routes in Tokyo.

Toyota Motor Corp and Honda Motor Co, Japan's top two automakers, became the first to put the no-emissions vehicles on the road last year, but their FCVs have only been leased out to ministries and other public agencies due to the vehicles' steep price tag.

The first commercial use of an FCV, which runs on hydrogen and only emits water as a by-product, has huge implications for the future, GM and FedEx said.

"In addition to giving General Motors lots of data from how fuel cell technology handles in real world situations, it's also another step toward true commercialization - when fuel cell vehicles can be sold to consumers at prices they can afford and auto companies make a profit from them," GM said.

The two U.S. companies have no similar alliance elsewhere in the world.

By storing liquid hydrogen on board the vehicle, HydroGen3 can run for 400 km (250 miles) before refueling, GM said. That is about 100 km more than FCVs developed by Toyota and Honda. The Japanese government wants to lay the groundwork for full commercialization of FCVs by 2005, with the aim of having five million of the vehicles on the road by 2020.

Automakers, however, have said commercialization could take longer due to high development costs and lack of infrastructure, such as hydrogen fueling stations.

75. Japan to Set Emissions Regulations for Ships In 2004

The Japanese government plans to introduce exhaust gas emissions regulations on most ships in the fall of 2004 in line with provisions set in an International Maritime Organization treaty expected to come into effect this fall, officials of the Ministry of Land, Infrastructure, and Transport said July 16. The 164-member IMO's treaty, the 1997 Protocol to the 1973 Convention for the Prevention of Pollution by Ships, has been ratified by 10 nations, including Sweden and Norway, accounting for 52 percent of oceangoing vessel gross tonnage.

Japanese regulations are the first of its kind in the country and aimed at reducing sulfur oxides, nitrogen oxides, particulate matter, and carbon monoxide. The country has an emission guideline for large tankers and vessels but allows other kinds of ships to release the gases freely.

The ministry currently is drafting details of emission tolerance levels for possible completion by the end of the year and implementation from next fall in line with the Diet's ratification of the treaty. They tentatively plan to reduce about 10 percent each of the gases with the upcoming regulations. Ship emissions account for about 30 percent or 720,000 tons of Japan's total NOx emissions and about 25 percent or 270,000 tons of SOx emissions.

The regulations would be applied to newly built vessels with engines exceeding 177 horsepower. All oceangoing vessels carrying the flag of any IMO member would be subject to the regulations, but pleasure boats would be excluded. Japan builds about 10,000 new ships every year.

Japan has about 30 ship engine manufacturers. They are expected to be able to reduce the emission of the gases

by 10 percent by improving existing technologies, but the ministry officials said they would need to develop breakthrough technologies to clear the next IMO regulations expected in 2009 that would set carbon dioxide emission levels to help mitigate global warming.

76. Philippines Sets HC Emission Standards for Motorcycles, Tricycles

The Department of Environment and Natural Resources (DENR) has come up with hydrocarbon emission standards for motorcycles and tricycles, which various studies have found to be among the chief causes of air pollution in the region. The emission standards cover all "in-use motorcycles and tricycles with two-stroke and four-stroke engines," which emit high doses of hydrocarbon compounds like benzene that are found to be carcinogenic as well as cause air pollution.

DENR Secretary Elisea Gozun said beginning in July, the hydrocarbon emission standard for in-use motorcycles in urban centers will be pegged at 7,800 parts per million (ppm) and in rural areas at 10,000 ppm.

The hydrocarbon standards will be implemented over three years, which will allow the DENR, working with the Department of Transportation and Communications, time to review and evaluate them after the first two years, with the possibility of modifying them later.

The DENR had earlier urged owners of motorcycles and tricycles to upgrade from two-stroke engines to four-stroke engines, which have a higher combustion temperature and burn fuel more cleanly. Two-stroke engines make up about 95 percent of the estimated 120,000 motorcycles and tricycles nationwide.

This is the first time the Philippines has set up a hydrocarbon emission standard for such vehicles. And the standard is comparable to those in Beijing, which puts it at 8,000 ppm, India at 9,000 ppm, Taiwan at 9,000 ppm, and Vietnam, Cambodia, and Thailand, which peg the standard at 10,000 ppm.

Tricycles or motorcycles with attached side-cars are often used as a key mode of transport in Southeast Asian cities because they are small and often can pass through inner-city roads otherwise off limits to big vehicles.

The Asian Development Bank (ADB) in a study released in June said Asia has the world's highest concentration of two- and three-wheeled vehicles. It said also that the region's motorcycle and scooter population more than doubled from 1986 to 2000. "In many Asian countries these vehicles account for 50 to 90 percent of the total vehicle fleet, a situation unheard of anywhere in the world," the ADB said in its study *Policy Guidelines for Reducing Vehicle Emissions in Asia*.

"Therefore, it is clear that priority must be given to developing and implementing pollution control strategies for these types of vehicles if Asian cities are to achieve clean, healthy air," the bank said.

The ADB stressed that "in-use standards tend to ensure that vehicles are maintained and used properly to assure maximum benefits from the emission technologies installed during production."

77. Philippines Sets November Deadline For Cutting Sulfur Content of Diesel

The Philippines is to accelerate by two

months a deadline for oil companies to reduce by 75 percent the sulfur content of diesel fuels as prescribed under the 1999 Clean Air Act, Department of Environment and Natural Resources (DENR) Secretary Elisea Gozun has announced. The new deadline will take effect in November this year instead of January 2004, Gozun said, noting that the move was part of the government's drive "to provide clean fuels for the transport sector and reduce the unhealthful effects of pollutants" such as sulfur, which experts say has been found to cause cancer.

Oil firms have been asked to meet the new deadline, and while some have protested, a majority agreed with the decision. The law states that sulfur content should be limited to 0.05 percent by weight by 2004.

Diesel powered vehicles account for a majority of all vehicles in the country, with the numbers continuing to rise, government statistics show. Of the estimated 1.2 million diesel-fuelled vehicles in the Philippines, about 65 percent are "high-mileage," meaning they are utility vehicles, buses, and trucks.

The government is slowly achieving its aim of allowing only cleaner fuels to power vehicles. 96 percent of all gasoline stations in metropolitan Manila have complied with a provision in the clean air law significantly reducing the content of benzene and aromatics in gasoline. Lead in gasoline was totally phased out two years ago, while the environment department also has recently come up with standards on hydrocarbon emissions for in-use motorcycles being used in urban and rural areas (see above).

A June 2003 study by the Manila-based Asian Development Bank, titled *Policy Guidelines for Reducing Vehicle*

Emissions in Asia, urged governments in the region to develop an integrated approach in setting fuel standards, noting that environment and public health concerns should be the driving force behind improvements in fuel quality. However, the bank noted that the "main impediment" to adopting state-of-the-art new vehicle emission technology in Asia "is fuel quality, especially lead and sulfur levels in gasoline and sulfur levels in diesel."

"When low-sulfur diesel fuel is introduced, strong consideration should be given to retrofitting existing vehicles with oxidation catalyst (500 parts per million maximum sulfur) or diesel particulate matter filters (50 ppm maximum), which can achieve significant and rapid PM [particulate matter] reductions," it said.

One effective way to encourage the rapid introduction of low-sulfur fuels is the introduction of a tax policy that results in higher pump costs for higher-sulfur fuels, similar to what is currently being done in Hong Kong, the ADB said. Studies carried out in Europe have found that reduced sulfur in diesel can lower particulates, such that for every 110 ppm reduction in sulfur there will be a 0.16 percent reduction in particulate matter emitted by vehicles, the study said.

Also, low-sulfur diesel fuels lead to reduced sulfur-induced corrosion and slower acidification of engine lubricating oil. This would then lead to longer vehicle maintenance intervals and lower maintenance costs, the study said.

78. Thai Villagers Test 'Polluter Pays' Principle, Sue Power Plant Developer in Landmark Case

A class-action lawsuit that has been filed against the developer of 13 lignite-

fired power plants in northern Thailand could set a precedent for future environmental disputes, but it may be years before the case is finally settled. A total of 130 people from four communities in rural Lampang province filed a case with the Lampang District Court demanding 1.08 billion baht (\$26 million) in compensation from the Electricity Generating Authority of Thailand (EGAT), the owner and developer of 13 lignite-fired power plants in the Mae Moh area.

The villagers claim that sulfur emissions from the plants, which were built in the 1980s and have a combined capacity of more than 2600 megawatts, have caused widespread respiratory illnesses and led to the premature deaths of 96 people.

Preliminary hearings on the case will commence in August.

The case is one of the first to be based on the provisions of the 1992 National Environmental Quality Act (NEQA), which introduced the "polluter pays" principle into the Thai legal system.

While EGAT representatives have acknowledged that emissions from the plants have had an adverse effect on nearby communities, they also have said villagers already have been amply compensated for any damages suffered.

EGAT shut down three of the Mae Moh plants more than a decade ago for violating sulfur dioxide emissions standards, but it announced plans to revive them in April 2003.

79. Australia To Include Synthetic Greenhouse Gases In Legislation

Greenhouse gases used as substitutes for substances with the most significant impact on the ozone layer will be

managed under the key Australian law controlling ozone-depleting substances, under proposed amending legislation introduced by Environment Minister David Kemp. The Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill will extend the scope of the Ozone Protection Act 1989 to cover synthetic greenhouse gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), where these are used as substitutes for ozone depleting substances.

HFCs are sometimes used as a substitute for chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs). PFCs, because of their flame retardant properties, are sometimes used as a substitute for halons.

The controls on the import, export, and manufacture of these gases imposed by bringing them under the management regime of the Ozone Protection Act is expected to deliver greenhouse gas abatement equivalent to up to 6 million metric tons of carbon dioxide a year by 2010, according to the environment minister. The legislation also will bring Australia into line with the requirements of the Beijing Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, which entered into force in February last year. The Beijing Amendment adds bromochloromethane to the list of ozone depleting substances governed by the protocol, and also bans signatory nations from trading in HCFCs with countries not committed to their phase-out.

80. Bangkok to Test Aging Diesel Vehicles

Thailand's Ministry of Natural Resources and Environment (MONRE) is set to launch a tough new initiative to force aging diesel vehicles from the capital

Bangkok due to ongoing concerns about the particulate matter (PM) pollution they generate. MONRE's Pollution Control Department (PCD), working with local police and officials from the Land Transport Department, Sept. 18 will begin setting up checkpoints throughout the capital where vehicles, particularly trucks and buses, would be stopped and tested to see if they violated PCD emissions standards. Vehicles that fail the tests will be affixed with PCD or LTD stickers that proclaim them "temporarily banned," and the owners will be given 30 days to repair the vehicles and have them tested a second time before the sticker is removed. Any vehicle sighted on Bangkok's roads with a "temporarily banned" sticker will be affixed with a "permanently banned" sticker and will not be permitted on the road at all.

According to PCD figures, buses and trucks make up only 5 percent of vehicles on the city's roads, but they are the source of some 52 percent of particulate emissions.

81. Current Situation With Regard To Motor Vehicle Pollution in Vietnam

a. Vehicle Population

i. HCMC's Vehicle Fleet

HCMC has the country's largest population, and its vehicle fleet consists of approximately 2.2 million motorcycles, 130,000 automobiles, and 60,000 three wheelers, about one third of Vietnam's total vehicle fleet. In 1990, there were less than 500,000 motorcycles and 50,000 automobiles. On average, there are over 1,000 vehicles per day being newly registered in HCMC, or approximately 20,000 units per month.

ii. Hanoi's Vehicle Fleet

Hanoi's vehicle fleet is the second largest in the country, after HCMC, with about 1.2 million motorcycles and 100,000 automobiles. For the past decade, the vehicle fleet has grown by about 10% per year on average and the motorcycle fleet by about 15%. The average vehicle speed in the urban area is from 18 – 32 km/h.

Vehicles are the largest air pollution source in the city.

iii. Future Growth

The vehicle population in the major cities and across the country is expected to continue to grow rapidly in coming years as the overall economy continues to advance. In an effort to constrain this growth, the governments of Hanoi and Ho Chi Minh City have recently ruled that each person could only own one motorcycle. Authorities now require motorbike buyers to present a driving license before registration and have imposed heavy fines on those caught driving without papers. Government statistics showed an estimated 45,500 vehicles were assembled in June, or 3.1% fewer than June 2002. However, it is important to note that illegal imports from China have reportedly increased rapidly in recent years; these motorcycles cost only \$400-500 compared to \$2000 or more for a legal one.

b. Public Transportation

Public transportation is very poor at present but is beginning to receive priority attention in both Hanoi and HCMC. In Hanoi, in 2001, the city had only 170 buses, all of which were very old and in poor condition. However, by 2005, the bus fleet size will be about 1000, most of which will be new buses – 250 were already purchased in 2002 and 320 more will be on the roads by the end of this year.

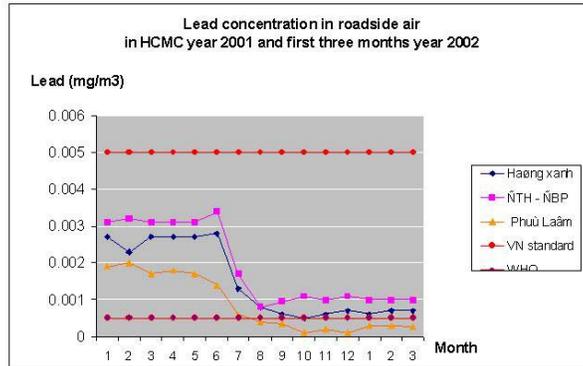
In HCMC, an effort is underway to replace 1,300 old buses this year and to increase the overall fleet to 5,000 by 2005. The project is behind schedule, however, with only 300 new buses on the road by July 1 and an additional 300 new buses requested by the Ministry of Transport.¹

Hanoi is also looking to introduce a rail system with 2 routes open by 2010. They are considering both skyway and underground options and are looking for potential investors. They consider trains superior to buses because they feel the street network is too narrow for buses and that buses take up more space than trains but carry less people. Also buses contribute more to urban air pollution and need parking spaces and workshops.

c. Fuel Quality

In July 2001, Vietnam eliminated the use of lead in gasoline. As a result, as illustrated in the figure below, ambient lead levels have fallen dramatically and are now meeting WHO guidelines.

¹“Govt drives expansion of city's bus fleet”, Viet Nam News, July 23, 2003.



However, other fuel specifications are very poor. With regard to gasoline, for example, the maximum allowable sulfur level is 0.15%, benzene content is 5% and manganese, a lead substitute that while legally allowed in the US has remained off the US market voluntarily while additional health studies are carried out. Diesel fuel can also have sulfur content as high as 0.50%.

Discussions also indicated that approximately 5-10% of the fuel oil used

in Ho Chi Minh City and some southern provinces is illegally imported and reportedly has very high sulfur content. This is mainly used for industrial activities.

d. Vehicle Emissions Standards

Current vehicle emissions standards are nominal and are summarized in the table below.

	Gasoline Engine						Diesel		
	Motor Vehicles				Motorbikes		Step 1	Step 2	Step 3
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2			
CO (%)	6.5%	6.0%	4.5%	3.5%	6.0%	4.5%			
HC (ppm)					10,000	7,800			
HC 4 Stroke (ppm)		1500	1200	600					
HC 2 Stroke (ppm)		7800	7800	7800					
HC (ppm) (Other)		3300	3300	3300					
Smoke (% HSU)							85	72	50

Gasoline vehicle emissions are measured by a simple idle test while diesel smoke emissions are measured using a free acceleration test.

As part of the draft Action Plan

developed in 2002 as part of the Asian Development Bank Regional Technical Assistance project, Vietnam had indicated its intention to adopt so called Euro 1 or Euro 2 emissions standards. These standards would now be possible

in Vietnam because of the availability of lead free gasoline.

e. Inspection and Maintenance Program

Beyond lead free fuel, the most significant motor vehicle pollution control program in Vietnam is an annual inspection of motor vehicles for safety and emissions. Inspections focus on brakes and tailpipe emissions and noise. However, the dominant segment of the vehicle population, the motorbikes, is currently exempted from the program. Also it was pointed out by one taxi driver that unsafe or highly polluting vehicles can pass the test by paying only 200,000 Dong (about \$12).

Currently 80 inspection stations are operating in Vietnam.

f. Mandatory Scrappage

The government has recently adopted a program to require all buses to be scrapped after 20 years and there will

soon be a proposal to limit the age of trucks to 25 years. The traffic police in Hanoi also indicated that they intend to institute a program to check motorbikes over 20 years old with the intention of trying to force them off the road.

g. Air Quality

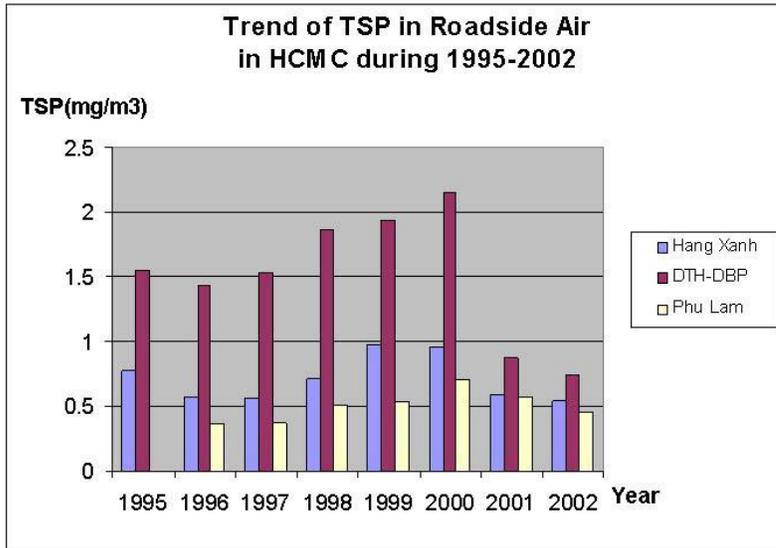
In 1992, an air monitoring sub-system was established in HCMC. At that time, it had four ambient air monitoring stations which measured PM, SO₂, NO_x, and three road-side monitoring stations to measure PM, CO, NO_x, Pb and noise levels. Since June 2000, both the UNDP and DANIDA have supported the installation and operation of four new automatic air quality monitoring stations: two urban ground stations for monitoring PM₁₀, SO₂, NO_x, CO, and O₃, and two roadside stations for monitoring PM₁₀, NO_x, CO, and O₃.

The Table below lists the pollutants monitored at each of the three station types.

Station Type and Pollutants Monitored

Station type	POLLUTANTS MONITORED
Urban Ground	Total suspended particulate (TSP), particulate matter less than 10 microns in size (PM ₁₀), and less than 25 microns in size (PM ₂₅), nitrogen oxides (NO _x), ozone (O ₃), and sulphur dioxide (SO ₂)
Road-side	PM ₁₀ and PM ₂₅ , lead, NO _x , CO, and Volatile Organic Carbons (VOC)
Industrial zones	PM ₁₀ and PM ₂₅ , NO _x , SO ₂

The most serious air pollution problem at



location.) Carbon monoxide levels also routinely exceed healthy levels.

Similarly in Hanoi most of roads are very narrow and short with a large number of traffic-circles; as a result, road conditions are very bad, traffic flow is not properly organized so serious congestion occurs almost every peak hours. As a

present is total suspended particulate (TSP). As indicated below, the three roadside monitoring stations in HCMC consistently exceed the Vietnam air quality standard of 0.3 mg/m³. (While it appears that there was a sharp drop at the DTH-DBP station during 2001, in fact the road was widened and the monitor was moved to a different

result, exhausted gases e.g. CO, SO₂, HC, TSP, Lead, and smoke are causing severe air pollution along the main roads and intersections.

Below are data on urban traffic air and noise pollution in Hanoi.

Air monitoring data at intersection Nga Tu Vong

No	Parameters	Annual mean result					
		1996	1997	1998	1999	2000	2001
1	CO(mg/m ³)	5,511	5,822	5,478	-	4,333	-
2	SO ₂ (mg/m ³)	0,786	0,792	0,839	-	0,723	-
3	NO ₂ (mg/m ³)	0,154	0,239	0,221	-	0,073	-
4	Pb (mg/m ³)	9,032	0,028	0,026	-	0,020	-
5	PM (mg/m ³)	1,196	1,239	1,237	-	0,567	-
6	Noise (dBA)	83,62	83,26	81,95	-	77,12	-

Source: Center for Environmental Engineering of Town and Industrial Areas

Air monitoring data at intersection Nga Tu So

No	Parameters	Annual mean result					
		1996	1997	1998	1999	2000	2001
1	CO(mg/m ³)	-	5,32	5,713	5,44	4,933	-
2	SO ₂ (mg/m ³)	-	0,752	0,742	0,801	0,723	-

3	NO ₂ (mg/m ³)	-	0,145	0,205	0,21	0,063	-
4	Pb(mg/m ³)	-	0,032	0,028	0,029	0,02	-
5	PM(mg/m ³)	-	1,121	1,151	1,191	0,633	-
6	Noise (dBA)	-	82,03	82,07	81,80	80,50	-

Source: Center for Environmental Engineering of Town and Industrial Areas

Traffic noise monitored at some main roads in Hanoi

No	Road	Parameters	Year		
			2000	2001	2002
1	Giai Phong road (National Road 1)	Noise LAmax (dBA)	101.4	100.5	105.1
		Noise LAeq (dBA)	75.7	76.2	77.4
		Intensity max (Vehicle/h)	4957	6636	7573
		Mean intensity (Vehicle /h)	4198	5144	6962
		2 Wheelers density (unit/h)	3587	4609	5983
2	Tran Hung Sao str.	Noise LAmax (dBA)	92.7	98.5	97.3
		Noise LAeq (dBA)	71.1	72.6	72.5
		Intensity max (Vehicle/h)	3176	4328	5199
		Mean intensity (Vehicle /h)	2604	3584	4312
		2 Wheelers density (unit/h)	2438	3268	3886
3	Sai Dong road (National Road 5)	Noise LAmax (dBA)	101.7	104.0	103.1
		Noise LAeq (dBA)	76.9	79.6	79.5
		Intensity max (Vehicle/h)	3539	5202	5862
		Mean intensity (Vehicle /h)	2791	4252	4880
		2 Wheelers density (unit/h)	2123	3452	4013

Source: Northern Environmental Monitoring Station

82. SEPA Says Environmental Outlook 'Not Optimistic'

Faced with severely polluted rivers and air, China's environmental outlook is "still not optimistic," the head of the nation's regulatory division said in its annual report on the state of environment. The Yellow River and the Yangtze River--China's two largest--face serious dangers environmentally because of pollution, low water flows, and the newly operational Three Gorges Dam, the State Environmental Protection Administration (SEPA) said in its latest report, title *Report on the State of the Environment in China 2002*.

SEPA Minister Xie Zhenhua promised that the country's environmental

regulators will monitor the Three Gorges Dam project closely, and the central government plans to invest \$2.4 billion in water treatment plants and other cleanup measures for the area. He classified pollution problems in the water diversion valley as "fairly serious."

Xie said that SEPA found air-quality in Chinese cities generally had improved in 2002. However, the report said, two-thirds of major cities did not meet minimum standards for air quality that would give them a "fair" rating. Soot and dust are primary culprits in most cities countrywide.

The industrial center of Lanzhou, in northeastern Gansu Province, ranks as the Chinese city with the poorest air quality, according to the report. The report also named Beijing as one of the

five worst in China for air quality.

The report said several large Chinese cities have sulfur dioxide pollution problems, and acid rain from the pollutant is prevalent in the southeastern part of the country.

83. Beijing Launches New Pollution Control Plan Prior to 2008 Olympics

The Chinese capital has launched a "five-year pollution control plan" with the aim of cleaning up the city before it is due to host the Olympic games in summer 2008. Beijing's vice-mayor in charge of environmental policy, Liu Zihua, unveiled the plan at a two-day government environmental conference that concluded July 3, which for the first time in years brought together all of China's top central and provincial environmental officials.

At the conference, Liu outlined the city's efforts to replace coal with natural gas as the main fuel for heating and cooking; to tighten automobile emissions standards; to install "green belts" outside the city to keep down dust; and to relocate heavily polluting industries outside the city and to get those that remain to meet higher environmental standards.

According to Liu, controlling air pollution is the city's top environmental priority.

The capital has set a target for raising natural gas supply in the city from the current 1.8 billion cubic meters per year to 5 billion cubic meters by 2007. The goal is to phase out coal as the city's primary fuel, which has so far proven difficult despite five years of government initiatives in this direction. According to official figures, 25 million tons of coal were burned in Beijing in 2002, only 2 million tons less than in 1998.

Regarding vehicle emissions, Beijing aims to continue to play its leading role in setting and meeting higher standards. Beijing was the first Chinese city to impose the European Union's "Euro II" automobile emissions standards in January 2003, the same standard that was imposed in EU countries in 1997. Now, Liu said, Beijing intends to impose "Euro III" standards by 2005. Official figures show that the city had 1.9 million motor vehicles at the end of 2002, and the number has been growing at a rate of around 10 percent annually.

Liu also laid out plans to remove polluting industries from the city and for calling on those that remain to meet higher standards. According to official figures, Beijing removed 147 "polluting enterprises" from within the urban district between 1998 and 2002. Now the government plans to remove "more than 200" additional enterprises that are located within the city's Fourth Ring Road--a beltway with a radius of about 15 kilometers (about 9.4 miles) from the city center.

Another initiative laid out in the five-year plan calls for the installation of a 500-kilometer (312.5-mile) "green belt" that is intended to help reduce dust. The capital is swept by dust storms nearly every year as spring winds from the northwest carry sand and dust from desert lands in Hebei Province and Inner Mongolia. The green belt is intended to counter this, though environmentalists say it will be a partial remedy at best.

84. ADB Issues Emission Policy Guidelines, Unveils Clean Air Initiative for Asian Cities

Asian countries are losing millions of dollars and registering a rising number of premature deaths due to worsening

air pollution, the Asian Development Bank (ADB) said June 11. To combat the problem, the ADB released a set of policy guidelines to help nations reduce vehicle emissions--tagged as the No. 1 cause of air pollution choking a majority of key cities in Asia.

The bank also said greater private-sector cooperation is needed in Asia's battle for cleaner air, and it called on the private sector to link up with an ADB-supported program called the Clean Air Initiative for Asian Cities, involving 20 cities in the region, 15 government agencies, and more than 40 nongovernmental organizations and universities.

The initiative has at least eight companies participating, including Ford Motor Co. and the Royal Dutch/Shell Group.

Statistics compiled by the Manila-based bank said that diseases linked to air pollution kill about 800,000 people yearly around the world, about 500,000 of whom--or about 60 percent--are Asians.

The guidelines are contained in a series of studies compiled by the ADB after two years of workshops involving more than 700 experts from the ADB, governments in the region, the public sector, and other environmental agencies. Among others, governments are called upon to adopt an integrated approach in maintaining engines and applying stricter emission standards, as well as to ensure the availability of cleaner fuels while mandating regular vehicle inspections.

Governments also need to integrate transport policies together with land use to ensure better traffic management and a smoother flow of road traffic--something that many Asian countries do not strictly follow, he said.

85. Nepal Government Sets Air Quality Standards

In response to public pressure and a Supreme Court order last year, the government has adopted national standards for ambient air quality. According to the new National Ambient Air Quality Standard (NAAQS), the maximum level of all six pollutants in the air of a particular place has been fixed. Anything exceeding this standard is considered harmful to human health. The particulate matter (PM₁₀), Sulphur Dioxide, Nitrogen Dioxide, Carbon Monoxide, Lead and Benzene make air polluted.

The air quality standard for PM10 is 120 micrograms per cubic metre. Similarly, the ambient air quality standard for Sulphur Dioxide is 50 micrograms per cubic metre, 40 micrograms per cubic metre for Nitrogen Oxide, 0.5 micrograms for lead and 20 micrograms per cubic metre for benzene. The air quality standard for Carbon Monoxide is set as 10,000 micrograms per cubic metre per eight hours.

The NAAQS, prepared on the basis of NAAQS of World Health Organisation, India and the USA, was first drafted by the Institute of Engineering in 2001, and was later finalised by an eight-member task force of experts. Besides, Asian Development Bank Technical Assistance and Nepal Health Research Council had also provided inputs to the NAAQS. According to a source at the Ministry of Population and Environment (MoPE), the NAAQS has been recently approved by the ministry and have been sent to the Law Ministry for publication in the Gazette.

At present, the level of air quality in Kathmandu is very shocking, studies show. According to the latest data from

the pollution monitoring stations in the valley, the level of PM10 is as high as 385 microgram per cubic meter in Putalisadak, more than three times higher than the standard of the pollutant as determined by NAAQS. Though the level of other gaseous pollutants is not currently available from the six pollution-monitoring stations set up by the government, with support from DANIDA, the level of the pollutants is anticipated to be very high.

86. Subcommittee Recommends Japan Toughen Emission Standards for Motorcycles & Off Road Vehicles

A Ministry of the Environment subcommittee June 30 formally recommended that the ministry substantially toughen tailpipe emission standards for motorcycles and specialty-purpose vehicles, such as construction machinery and road-pavers.

The MOE, for its part, plans to proclaim new regulations by the end of fiscal 2003, which ends in March 2004.

For motorcycles with engines of 250 cubic centimeters (cc) or larger, the recommendations submitted by the Central Environment Council's Atmospheric Environment Subcommittee call for reducing hydrocarbon and carbon monoxide emissions 85 percent from current regulatory levels by 2007, which would bring those emissions down to 0.3 grams and 2 grams per kilometer, respectively. The subcommittee also recommended that emissions of nitrogen oxides be cut 50 percent to less than 0.15 gram per kilometer.

More than 90 percent of motorcycles imported to Japan have engines that are larger than 250 cc, particularly Harley-Davidson motorcycles, which account for more than 90 percent of U.S.

motorcycle exports to Japan.

For motorcycles with engines smaller than 250 cc, the regulation clearing deadline was set for 2006.

In making the recommendation, the subcommittee explained that air pollution caused by suspended particulate matter and nitrogen oxides remained serious in Japan, and that motorcycles account for as much as 20 percent of hydrocarbon emissions nationwide. It also pointed out that four-wheel vehicle emission technologies have dramatically improved and should be applied to motorcycles.

The subcommittee also recommended toughening standards for emissions released from diesel-powered specialty vehicles such as construction machinery and road-pavers between 2006 and 2008.

Under the proposed recommendations, specialty motor vehicles with power ranging between 19 kilowatts and 37 kilowatts would be required by 2007 to reduce NOx emissions 25 percent to less than 6.0 gram per kilowatt-hour (g/kwh) and to reduce hydrocarbon emissions 33 percent to less than 1 g/kwh. Carbon monoxide emission limits would remain unchanged at 5 g/kwh. However, the recommendations call for slashing particulate matter emissions 50 percent to less than 0.4 g/kwh and cutting diesel soot 40 percent, also by 2007.

Specialty motor vehicles with power ranging between 130kw and 560kw would be required by 2006 to reduce nitrogen dioxide (NO₂) 40 percent to less than 3.6 g/kwh; hydrocarbon emissions 60 percent to less than 0.4 g/kwh; particulate matter 15 percent to less than 0.17 g/kwh; and soot by 25 percent. The emission limit for carbon monoxide would remain 3.5 g/kwh.

The recommendation also set regulations on specialty motor vehicles of sizes in between the two classifications.

The subcommittee recommended that specialty vehicles be equipped with diesel particulate filters and other devices for reducing emissions.

Finally, the panel also recommended that Japan set emission regulations on gasoline- and liquefied propane gas-powered specialty motor vehicles with power between 19kw and 560kw by 2007. Those proposed limits are 0.6 g/kwh for NO₂; 0.6 g/kwh hydrocarbons; and 20 g/kwh for carbon monoxide.

87. Japan's Environment Ministry Appears Set To Release Carbon Tax Proposal

A proposal for a low-level carbon tax, with revenues used for emissions-abatement initiatives, is likely to be released in July by a Japanese Ministry of the Environment (MOE) committee considering the issue, according to Professor Toru Morotomi of the University of Kyoto. Morotomi is a member of a working group established by the committee to look at the possible structure of a carbon tax.

The committee is still divided on whether such a tax should be imposed upstream on energy generators or downstream on energy users. The emissions abatement impact of imposing a tax upstream could be lower, as generators "could very easily shift their tax burden downstream." Despite this potential drawback, MOE officials favor an upstream model because it is less administratively challenging, he said.

Morotomi added that Japan's Ministry of

Finance (MOF) is expected to give more extensive consideration to the potential to use economic instruments to achieve environmental goals in its next mid-term report on tax policy, also due out in July.

The imminent release of the carbon tax proposal follows an MOE announcement in February that it would start talks with other ministries on introducing environmental taxes in fiscal 2005.

88. Unleaded Fuel Program Introduced On Indonesian Island Of Batam

The Indonesian island of Batam has been chosen as the third region for an unleaded fuel program following Jakarta and Bali. "The choice of Batam Island is based on its well developed transportation sector," Irto P. Ginting, a spokesman for state-owned oil company Pertamina said during the launch of the program by Environment Minister Nabel Makarim.

He said unleaded fuel had been sold since May 2003 in Batam and its supply had reached 300 tons per day through nine fuel stations.

Batam is a free trade zone located in the Riau islands south of Singapore.

LATIN AMERICA

89. Venezuela Certifies Devices for Measuring Tailpipe Emissions In Preparation For Increased Monitoring

The National Autonomous Service of Norms, Quality, Measurements, and Technical Regulation (SENCAMER), a part of the Ministry of Production and Commerce, informed Tecnoseca C.A. the first week of June of the certification of its devices to measure vehicles

tailpipe emissions. This will enable Venezuela to initiate a program of monitoring and citing vehicles that violate pollution limits.

One of the devices approved measures four different gasses released in gasoline-powered vehicles' exhaust: carbon monoxide, carbon dioxide, oxygen, and hydrocarbons. The second measures the opacity of diesel exhaust.

The certifications are based on the Venezuelan Commission on Technical Norms' (COVENIN) standard 2168 (2002) governing instruments for measuring vehicle emissions and norm 2309 on diesel motors.

While Tecnoseca has been making the devices for some time and selling them to mechanics' shops and government agencies, their measurements did not previously carry any legal force.

The Ministry of Infrastructure (MINFRA) is starting a program to measure bus exhausts. In November 2002, government officials carried out a test run, measuring the emissions of some 600 buses in Caracas bus terminals. However, the effort was interrupted by the December-January petroleum strike.

Now that the devices have been certified, the MINFRA will begin citing and sanctioning vehicles that violate the pollution standards set by Decree 2673, published in *Official Gazette* No. 36,532 of Aug. 19, 1998, as well as COVENIN norm 2227 for measuring emissions from vehicles while they are idling and norm 2309. The decree sets emissions limits based on vehicle weight and year of construction. With the money expected to be collected from fines, the ministry plans to purchase additional emission measuring devices; it hopes to obtain at least 10.

MINFRA charges one Tributary Unit of

19,400 bolivars (\$12.12) for each revision. The official said owners of vehicles found to be in violation are given 60 days to make repairs, after which they can be fined if still in violation. In the November testing, he said, three-quarters of the diesel vehicles and 90 percent of the gasoline-powered ones were within the emissions limits.

Under the Decree, violators may be fined from one to five Tributary Units. However, the government is being lenient because the foreign exchange controls imposed after the petroleum strike have made importing spare parts difficult. Also, the fine amount is small, but it is hoped that Venezuelan vehicle owners' culture would change and they would pay more attention to emissions control. Already, it has been reported that several bus company owners have approached the ministry asking to have their vehicles checked.

In addition, the ministry is once again working to promote installation of natural gas engines alongside conventional gasoline engines in vehicles. Sixty percent of Venezuelan taxis and 20 percent of buses now have natural gas engines installed.

GENERAL

90. Environment, Trade, and Finance Inseparable, UNEP's Toepfer Says

United Nations and World Bank officials have predicted that trade rules and environmental policies will increasingly clash, but they can be made to mesh in the name of sustainable development. Klaus Toepfer, executive director of the United Nations Environment Program, conceded that trade commitments almost always win out over environmental concerns. But he called

attention to recent cases showing that environment-related trade measures can be applied fairly.

Toepfer made his remarks in conjunction with the release of the *World Resources Report 2002-2004*, the 10th in a series of biennial reports on global environment and development trends, published jointly by the World Bank, the United Nations Development Program, the United Nations Environment Program, and the World Resources Institute.

This year's report focuses on how corporations are responding to demands for greater environmental accountability and transparency within the context of economic globalization and in the wake of the 2002 World Summit on Sustainable Development in Johannesburg.

Kristalina Georgieva, director of the Environment Department of the World Bank, said the public's right to know and environmental accountability have "tremendous muscle if we really put it into place." But she warned that developing countries have to grow between 2 percent and 4 percent every year for poverty to be eradicated by the year 2050. "This growth has to happen with a radical reduction in consumption patterns," Georgieva said.

Statistics from the report indicate an overwhelming human dependence on rapidly deteriorating ecosystems. "One out of every six humans depends on fish for protein needs, yet 75 percent of the world's fisheries are over-fished or fished at their biological limit," it said. "Nearly 41 of every 100 people live in water-stressed river basins. Some 350 million people are directly dependent on forests for their survival, with global forest cover declining by 46 percent since pre-agricultural times," it said.

Georgieva said poor communities were "particularly vulnerable to failed environmental governance, since they rely more heavily on natural resources for subsistence and income. They are less likely to share in property rights that give them legal control over these resources."

Toepfer said it was important to note that global trade rules do permit nations to restrict trade on environmental grounds if necessary. He predicted that environmental considerations would continue to play an increasingly large role in international trade and finance considerations.

"These two drivers of the global economy have their own governance structures--institutions such as the World Trade Organization and the system of multilateral development banks and export credit agencies--that can either contribute to or come into conflict with the goals of sustainable development," he said.

Toepfer noted that the preamble to the agreement establishing the WTO expressly recognizes the need for trade to support sustainable development and to "protect and preserve the environment." Likewise, he said, the North American Free Trade Agreement's preamble states that member countries--Canada, Mexico, and the United States--will undertake their trade obligations in a manner "consistent with environmental protection and conservation."

But in reality, he said, the global trading regime takes precedence over environmental governance. In contrast to the loose global environmental regime, he said, the global trading system is characterized by strong institutions--the WTO and a number of regional trade regimes such as NAFTA and the European Union. He conceded

that trade commitments "have the potential to trump environmental ones."

Toepfer, however, said he detects a slight shift in recent years. He cited the successful WTO support for the U.S. embargo on imports of shrimp caught by boats that failed to use sea turtle exclusion devices. "The measure was intended to protect sea turtles from entrapment and death in shrimp trawls," Toepfer said. "This was narrowly and even-handedly applied."

The report identifies the trade concept of "nondiscrimination" as one of the biggest sources of friction between trade practices and environmental laws. Nondiscrimination rules of trade mean that domestic products should not be favored over imports that look and perform the same.

While free trade practices rely on nondiscrimination, the report notes that the "principle runs counter to the basic premise of many international environmental policies that countries should discriminate against products and processes that harm the environment, and favor those that minimize harm."

The report recognizes that more trade seems inevitable as the world economy grows. "What this will mean for the environment is not quite as clear. There is no doubt that trade activities have direct impact on natural resources, and economic links between trade and environment are complex.

"There is no conclusive evidence that trade in and of itself necessarily harms the environment. Rather, trade often magnifies the environmental effects of economic activities. If an activity like logging or fishing is unsustainable, trade can worsen its effects by increasing the scale of the activity."

Jonathan Lash, president of the World Resources Institute, stressed that access to information is crucial so that people can find out where pollution is affecting communities.

"Democratization of environmental decision making is one of the most direct routes to better environmental decisions," Lash said. "It is also a powerful lever for better governance more generally, because people are willing to engage their governments on decisions that bear so directly on their health and well-being."

James Werksman, a UNEP adviser, said there is a need "to work on both the supply and the demand side of access to information and access to decision making and justice. We need to empower people to ask the right questions and empower governments to be able to ensure that they can actually respond to those questions in an effective and meaningful manner."

He added that in much of the developing world, there is great resistance to community right-to-know efforts "because information in many countries is power, and so revealing that information isn't always within the interests of those who hold it. It's also expensive to gather information and make it accessible and usable due to the need for technical and financial capacity."

91. Hydrogen Cars Not Needed, US Experts Say

Two U.S. energy experts cast doubt on a push to develop hydrogen-powered cars as a means to cut air pollution and reduce oil imports. Cheaper and faster ways already exist to achieve the same effect, including raising fuel efficiency and toughening environmental standards, David Keith and Alexander

Farrell, wrote in the journal Science.

"Hydrogen cars are a poor short-term strategy, and it's not even clear that they are a good idea in the long term," Farrell, assistant professor of energy and resources at the University of California, Berkeley, said in a statement.

"Because the prospects for hydrogen cars are so uncertain, we need to think carefully before we invest all this money and all this public effort in one area."

President Bush has proposed spending \$1.5 billion over five years to spur development by 2020 of cars that run on hydrogen fuel cells in order to cut dependence on imported oil. The European Commission has said it plans to spend close to \$2.3 billion (2.1 billion euros) on hydrogen-related research over the next four years.

Hydrogen is present in water, oil, gas and coal. Supporters of a "hydrogen economy" regard it as a clean source of energy that would cut pollution and the carbon dioxide emissions some scientists link to global warming.

Farrell and Keith, associate professor of engineering and public policy at Carnegie Mellon University in Pittsburgh, noted that hydrogen is derived mostly from oil and coal, which produce substantial carbon dioxide.

They said better fuel efficiency, improvements to car technology and stricter environmental rules could reduce air pollution at less than 100th the cost of hydrogen cars and would be more effective for several decades.

"Automobile manufacturers don't need to invest in anything fancy. A wide number of technologies are already on the shelf," Farrell said. "The cost would be trivial compared to the changes needed to go to a hydrogen car."

Other scientists have also questioned the benefits of hydrogen fuel cells. Leading environmental groups have also criticized the U.S. government and Europe for failing to put renewable energy sources such as wind and solar power at the heart of their hydrogen policies.

92. U.N. Meeting Ends Without Action On Budget, Approval of Baseline Projects

The 18th Meeting of the Subsidiary Bodies on the Framework Convention on Climate Change ended June 13 with only incremental advances on a largely technical set of issues, leaving most of the most high-visibility topics to be taken up again at the next round of talks to be held in Milan in December.

The Clean Development Mechanism's executive committee failed to approve any of the proposed baseline projects presented to it, and talks on the budget for the 2004-2005 biennium were tabled.

The main positive advance late in the summit came with the approval of the text for the creation of a special climate change fund for developing countries. The fund would be used, according to the document, to "finance activities, programs, and measures related to climate change that are complimentary to those funded by the resources allocated to" other funds, such as the Least Developed Countries Fund and the Global Environment Facility Trust Fund. But while the text said the funding would be "country-driven ... [and] integrated into national ... strategies," decisions about a specific value of the fund and how it would be financed were postponed for another meeting.

A. Differences Between US, EU Delay Budget Talks

Negotiators postponed discussions on the UNFCCC budget for 2004 and 2005, after delegates were unable to resolve differences over how much of the total figure should be paid by noncomplying countries. During the debates, the most important noncomplying country was the United States, which is committed to paying around 22 percent of the total budget for the UNFCCC, which had requested a total of \$37.1 million over the next two years. The United States argued for a "segregated" budget that would differentiate costs associated with the UNFCCC and those tied to the Kyoto Protocol, which Washington says it will not approve.

But the European Union adopted a French position that said that all members of the conference of the parties--which includes the United States--must pay their allotted share. The difference boiled down to \$5.9 million that the UNFCCC says is the part of the budget that would be used entirely for Kyoto-related expenditures--a difference of around \$1.3 million to the United States.

B. Hungarian Environment Minister Named Chairman of COP-9

Hungarian Minister for Environmental and Water Miklos Persanyi was named as the chairman of COP-9. The chairmanship is often a key role during COP meetings, because the chairman sets the agenda and prioritizes the issues to be covered.

C. Uncertainty About Russia's Ratification Of Kyoto Pact

Russian officials have given conflicting signals about the prospects of the Kyoto pact's ratification in Bonn. One official

from Russia's Energy Ministry said there has been no indication that Russian Premier Vladimir Putin had changed his mind since he vowed last year at the World Summit on Sustainable Development in Johannesburg that Russia would ratify Kyoto. Another official from the Russian Ministry of Territory said ratification of the treaty was in the hands of the Russian Duma, which would address the issue "in the future."

Because of that situation, ranking officials from the UNFCCC have recently spoken out to urge the Russians to ratify the treaty, and government officials from several countries that have already ratified the agreement have taken steps to speed up the ratification process. The most recent news came when Joke Waller-Hunter, the UNFCCC executive secretary, called on Russia to "end the uncertainty" over whether or not it would ratify the treaty. Similarly, the European Commission has said it has spoken to the Russian delegation here in Bonn, and several other countries--most notably Italy, which is keen to see the Kyoto pact ratified at the COP-9 meeting in Milan--have entered into bilateral talks with Russia as a way to encourage ratification.

The Russian Ministry of Trade and Economic Development, one of governmental bodies responsible for overseeing the process of ratification, July 4 issued a statement saying the ministry does not oppose the protocol's ratification and does not expect Russian economic interests to be hurt as a result of the ratification.

On June 26, the Ecological Committee of the State Duma, the lower house of the Russian Parliament, held a round table discussion at which experts and Duma deputies talked about the possibility of Russia's ratifying the Kyoto

Protocol. As a result, all agreed that the ratification is both necessary and profitable for Russia.

Among other things, scientists participating in the roundtable discussion presented results of a study showing that more than 40,000 untimely deaths of Russian citizens could be avoided each year if Russia ratifies the protocol.

Some deputies, who are in summer recess until September, said they hope the Ministers' Cabinet will send them the draft of the protocol ratification document by the time Parliament reconvenes. However, while President Putin has expressed support for the protocol's ratification, he has not pushed the government to speed up the ratification process, and it is unclear whether he actually supports it.

D. Web Site For COP-9

The Italian Ministry of Environment June 11 unveiled a comprehensive Web site for information related to the Ninth Conference of the Parties (COP-9) to the Kyoto Protocol, which will be held from Dec. 1-12 in Milan. As the COP-9 meetings approach, the site will include information on issues related to the meetings, in-progress agendas, lists of participants, and logistical information. During the meetings, the page also will include Web casts of key meetings, media information, and updates of document drafts.

The COP-9 talks are the main environmental priority for Italy while it holds the six-month rotating European Union presidency, starting in July.

93. Industrialized Nations' Greenhouse Gases Expected to Rise

Industrialized nations are likely to see

their greenhouse gas emissions rise by as much as 17 percent by the end of this decade, the United Nations said in a report released June 3. The U.N. report anticipates that the combined emissions of Europe, Japan, the United States, and other highly industrialized countries are projected to grow by 2010 even while considering domestic measures currently in place to limit them. The report, *Compilation and Synthesis of Third National Communications*, based its conclusions on projections provided by the governments in their Climate Action Reports submitted last year to the United Nations.

The United Nations also determined that so-called "transition countries" of Central and Eastern Europe are beginning to increase their emissions again as their economies recover from downturns in the early- and mid-1990s. As a result of combining information with other country reports, the United Nations projects the developed world as a whole (highly industrialized plus transition countries) will see its emissions increase by about 10 percent from 2000 to 2010.

Emissions rose in nearly all major economic sectors including energy, transportation, manufacturing, and agriculture, the report said.

The combined emissions of all developed countries actually fell during the 1990s by 3 percent due to an overall 37-percent decline in emissions from transition countries and declining economies in highly industrialized nations. Therefore, these parties to the U.N. Framework Convention on Climate Change met the convention's intermediate goal of keeping the developed nation's overall emissions at 1990 levels by 2000.

Despite the collective decline, however, greenhouse gas emissions in the highly industrialized countries alone rose 8

percent during the 1990s. For example, emissions increased in New Zealand (5 percent), Japan (11 percent), the United States (14 percent), Australia (18 percent), and Canada (20 percent). The European Union's total emissions decreased by 3.5 percent from 1990 to 2000, with individual member states varying between a decrease of 19 percent and an increase of 35 percent.

94. Hydrogen Fuel Could Destroy Ozone Layer

Changing from vehicles powered by fossil fuels to hydrogen-fuel cell vehicles could reduce stratospheric ozone levels by as much as 10 percent due to hydrogen gas leakage and lead to more harmful ultraviolet radiation, according to a study published June 12 in the journal *Science*.

While a hydrogen fuel-cell economy would improve urban air quality, uncertainty remains about its atmospheric effects because scientists still have a limited understanding of the hydrogen cycle, researchers from the California Institute of Technology said. Acknowledging the uncertainty, the researchers nonetheless said higher levels of hydrogen *could* cool the stratosphere and lead to the destruction of the Earth's protective ozone layer. Stratospheric ozone is a naturally occurring gas that filters the sun's ultraviolet radiation. A diminished ozone layer allows more radiation to reach the Earth's surface.

The study noted that internal combustion engines that are now widely used in vehicles use fossil fuels and produce pollutants, including soot, noxious nitrogen, sulfur gases, and carbon dioxide.

U.S. President George W. Bush is promoting a hydrogen fuel initiative as a

key part of his energy plan. Aimed at reducing the nation's growing dependence on foreign oil, it involves developing the technology for commercially viable hydrogen-powered fuel cells to power cars, trucks, homes, and businesses. Conversion to a hydrogen economy is intended to improve air quality and sharply reduce carbon dioxide greenhouse gas emissions.

But if hydrogen were to replace fossil fuel entirely, the CalTech researchers estimated 60 trillion to 120 trillion grams of hydrogen would be released each year into the atmosphere, assuming a 10 percent to 20 percent loss rate due to leakage. This is four to eight times as much hydrogen as is currently released into the atmosphere by human activity and would result in a doubling or tripling of the amount of hydrogen in the atmosphere from all sources, natural or human, according to the study.

The study was prepared by Tracey Tromp, a physics researcher, John Eiler, assistant professor of geochemistry, and other scientists associated with CalTech. They estimated the potential damage to stratospheric ozone levels based on an atmospheric modeling program that tests various scenarios, depending on how much hydrogen enters the atmosphere from all sources.

"This man-made hydrogen will either be absorbed in the soil--a process that is still poorly understood but likely free of environmental consequences--or react with other compounds in the environment," Eiler said in a prepared statement.

"The balance of these two processes will be key to the outcome," he said. "If soils dominate, a hydrogen economy might have little effect on the environment. But if the atmosphere is the big player, the stratospheric cooling

and destruction of ozone ... are more likely to occur."

At present, the authors said, it seems likely such emissions could accumulate in the air, thus moistening and cooling the upper atmosphere, and indirectly, destroying ozone.

Tromp, the lead author, said the study presents an opportunity to learn about the consequences before switching to the new technology. "It won't be like the case with the internal-combustion engine, when we started learning the effects of carbon dioxide decades later," he said. Understanding the effects of hydrogen on the environment now should help direct the technologies that will be the basis of a hydrogen economy, he continued.

95. 10 Banks Establish Voluntary Guidelines For Management of Environmental Issues

The World Bank's private sector affiliate announced June 4 that 10 leading banks have adopted a voluntary set of guidelines for managing environmental and social issues in the financing of development projects.

The International Finance Corp. (IFC), a member of the World Bank Group, said the banks will apply the so-called "Equator Principles" globally and for the financing of projects in all industry sectors--including mining, oil and gas, and forestry. They will apply to all loans for projects with a capital cost of \$50 million or more.

The principles are based on the policies and guidelines of the World Bank and IFC. In agreeing to the principles, a bank essentially says it will lend only for those projects whose sponsors can demonstrate they are willing to comply with a process ensuring the projects are

developed in a socially responsible manner and in accordance with sound environmental management practices.

The banks adopting the "Equator Principles" are ABN AMRO Bank, N.V., Barclays PLC, Citigroup Inc., Credit Lyonnais, Credit Suisse Group, HVB Group, Rabobank, Royal Bank of Scotland, WestLB AG, and Westpac Banking Corp. The 10 banks, from seven countries, underwrote about \$14.5 billion of project loans last year, the IFC said.

The principles will use a screening process that will categorize projects as A, B, or C--for high, medium or low environmental or social risk. For projects in the first two categories, the borrower will have to complete an environmental assessment--which addresses a host of issues, such as protection of human health, major hazards, fire prevention, socioeconomic impacts, effects on indigenous peoples, and efficient production, delivery, and use of energy. Projects in emerging markets also will have to show the assessment has taken into account the IFC's "safeguard policies," which provide guidance on issues such as involuntary resettlement, dam safety, forestry, cultural property, and habitats.

96. Record Temperatures Around Globe May Continue, World Meteorologists Say

Temperatures across the globe are continually reaching record highs because of climate change, the World Meteorological Organization has reported. As a result of the temperature changes, the number and intensity of extreme meteorological events may increase further, even as new records of extreme events are already occurring every year across the globe, the WMO said in a July 2 statement.

The organization is a branch of the United Nations' that monitors the Earth's atmosphere and climate.

According to recent WMO studies, the record high temperatures recorded across southern France--with maximum temperatures exceeding 40° Celsius (104° Fahrenheit)--resulted in June average temperatures of 5°C to 7°C (9°F to 13°F) above the long-term average.

Likewise, Switzerland registered the month of June as the hottest in at least the past 250 years recorded by environmental historians, WMO said. Specifically, in Geneva, maximum daytime temperatures did not drop below 25°C (77°F), making June 2003 the hottest June on record for the city.

Records in extreme weather events also were broken and, in some cases, by significant margins. In the United States, for example, there were 562 tornados during May, which resulted in 41 deaths and established a record for the number of tornados in any month at any time in the nation's history. The previous monthly record was 399 in June 1992.

WMO said these record extreme events, which include high and low temperatures as well as high rainfall amounts and droughts, all go into calculating the monthly and annual averages that, for temperatures, have been gradually increasing over the past 100 years.

According to recent climate change scientific assessment reports of the joint WMO/U.N. Environment Program's Intergovernmental Panel on Climate Change, the global average surface temperature has increased over the 20th century by around 0.6°C, which is about 0.15°C larger than estimated by previous reports.